

WELLINGTON SURVEYS.

On my return from Hawke's Bay I visited the Survey Office of Wellington on the 5th December, and from Mr. Henry Jackson I received the following information. When this officer assumed direction of the department there was no survey system here. The office maps were in a most confused state. The surveys were on different meridians, and the operations most loosely and carelessly performed. There was no attempt whatever at triangulation, nor was there any determination of latitude, longitude, and true meridian. But the Admiralty Surveyors (H.M.S. "Acheron" and "Pandora") had in an approximate manner observed the latter at Pipitea Point, that is, Mr. Jackson added, speaking of the work in the language of scientific geodetic survey. Marks of true meridian, however, were not fixed in the ground by these surveyors.

The New Zealand Company's surveyors at the outset of the settlement (1841 to 1852) laid out about 268,000 acres in sections, nearly all being in the chess-board fashion termed here "paper survey:" that is, they did not exist on the ground. When sections were sold on these surveys it was the custom for surveyors then to be sent to mark out the purchases. This being inconsistently done, the work was inaccurate. These operations, however, have been nearly all revised and re-pegged, and pegging is now in progress.

On this subject, in asking for special examples of inaccuracies, none were shown.

The present survey system, commencing in 1865, is based entirely on triangulation. There are three principal triangulations, of which the initial points are Somes Island for Wellington, Windy Peak for the Wairarapa, and Taikorua for the Rangitikei Districts. A fourth triangulation, whose sides average twenty miles, connect together these three principal triangulations. With major triangulation, minor was executed, and, so far as the Crown lands of this province are concerned, the whole is covered by major and minor triangulations.

True meridian was observed at the Hutt private observatory, and reduced to Soames Island by computation. It was also observed at the Opaki base line, and reduced again to Windy Peak meridian. It was again checked at Castlepoint by comparison with Heale's meridian, taken at Hawke's Bay. True meridian was not observed at Wanganui, but absolute proof was had of the correctness of the bearing in this manner:—The true meridian of Somes Island was carried up along the West Coast by major triangulation to the Rangitikei-Manawatu District; thence it crossed the range, by the same major triangulation, to the Wairarapa District, when it was compared with an absolute observed true bearing at the Opaki base, with a difference of only 5". The instrument used was an 8" theodolite.

When Mr. Jackson first took charge, extensive section surveys had been completed and were in progress. These were in three ranges called magnetic meridians for the three separate districts. These surveys had perforce to proceed till true bearing could be extended to them by the triangulation, and consequently the whole of the sectional surveys are based on these three magnetic meridians. Thus, for practical purposes, all the traverse surveys are mathematically reduced on the magnetic meridian and perpendicular, and commence and end at trig. points.

Maps exhibiting practical work were shown, those of major triangulation being on a scale of eight miles to an inch; minor triangulation, forty to eighty chains also to an inch. All sectional work done by the present Chief Surveyor has been mathematically checked by these triangulations.

In Wellington Province the land system entails survey before sale as well as sale before survey, but the latter are generally for sales of large blocks of pastoral land, and consequently facilitates, rather than otherwise, the operations of the office. The small spotting applications before survey have given a great deal of trouble. The pressing nature of work widely separate has been the great difficulty to be contended with, and, again, the enormous arrears of survey before Mr. Jackson took charge. The sales were effected, but no surveys were performed on the ground; this fact has hitherto rendered surveys more than ordinarily expensive.

The Province of Wellington may be classed as rough bush hill country. The revisal of bush country cost 3s. per acre, whereas the new surveys cost only 1s. to 1s. 6d. per acre.

The sizes of maps are as follow:—Agricultural land, ten chains to an inch, varying in size from 72 × 52 inches down to 3 feet square. The maps of pastoral land are on 20 chains to an inch scale, and the maps of sizes same as above. All are kept in rolls on the walls of the office, and, the building being wooden, may be said to be always in danger.

The old maps are dilapidated, and the new in good repair, but the latter embrace, by revision, most of the former.

The system of recording Crown grants, at present, is to make a copy of the working plan on standard plan of district, stamping C.G. when the plan is put on the Crown grant. Crown grants for about 147,000 acres were issued before Mr. Jackson's time from the old maps, and from these it could not be ascertained what Crown grants had been issued; but a list is kept in the Crown Lands Department from which the issues could be recorded on the maps in the Survey Office.

Old maps have broken into shreds from the practice of rolling, and some of the new maps indicate the process as commencing.

I was now shown a plan of Wanganui District, by Park and Porter. It had much the form of an application map, but showing trig. stations and some traverses. These data must be held to be incomplete on the standard of recent approved systems in the colony. I was also shown one of the original Wanganui field-books. It had been kept in pencil in the handwriting of Mr. R. Park. I am of an opinion that by an expert, well acquainted with the district and the several estates, it ought to be unravelled; and I may add, from long experience in the southern portion of New Zealand, that in cases of disputed boundaries coming before a Court of law, the document, being an original one, such as it is, would be held as good evidence.

The original system of survey of Wellington appears to have been much the same as has held good in Canterbury to this present time, feature surveys having been made, and applications put down on these, fronting to rivers, roads, &c.

A synopsis of the Wellington survey work is as follows:—