

The surveyors' plans show the bearing and linkage of each straight boundary line, distinguishing cut lines from those which have not been cut. The plans on Crown grants show approximate acreage, and usually linkages, but never bearings. Twenty inches to a mile is the scale for town plans.

*West Coast Surveys.*—On the West Coast gold-fields the surveyors are chiefly occupied with mining surveys—that is, surveys of blocks of ground for mining leases, extended claims, &c.; also in the surveys of tunnels, underground encroachments, and level, tail and head races, the miners paying Government at fixed rates for the work done. So long as adjoining claims are accurately laid down with respect to one another, collation of these surveys on general maps is a matter of no moment, as the claims are quickly worked out, often abandoned, taken up in different shapes, and altered every few months. A few blocks of land have however been surveyed for sale in the Grey and Inangahua Valleys; also a number of small blocks for leasing in various parts of the gold fields. Most of these detached surveys are correct in themselves, and could be made use of if connected with fixed trigonometrical points, the establishment of which would be a work of but little difficulty. The importance of thus collating them, and of connecting the various digging centres together and securing a basis for accurate maps, was strongly felt by the late Chief Surveyor, who repeatedly urged on the Provincial Government the necessity for a triangulation, though without success. Not having sufficient *data* nor the means of procuring them, he has declined to attempt a compilation; and at present, beyond a rough sketch-map, there is no general plan of the gold-fields. Trigonometrical survey, however, is urgently needed, as well as accurate plans of the district generally, especially of the "reefing districts" of the Inangahua, where they will soon become indispensable.

*Summary of Progress.*

	Acres.
Section-surveyed, correct .. .. .	25,000
Section-surveyed; untrustworthy .. .. .	200,000
Topographically surveyed, but needing revision .. .. .	1,350,000
Unsurveyed .. .. .	5,425,000
Total area of Nelson .. .. .	7,000,000

MARLBOROUGH.

Before the separation of this province from Nelson, which took place in 1859, surveys made by the New Zealand Company and the Nelson Government had embraced the valley and plain of the Wairau, the Wakefield Downs, the valleys of the Pelorus, Kaituna, and Waitohi, and a number of isolated blocks on the bays in Queen Charlotte and Pelorus Sounds, and in various places all over the province, as required by the course of settlement. They comprised a total area of about 331,000 acres, of which 199,000 acres had been sectionally surveyed on the principle of survey before selection, and the rest topographically only. These surveys were exactly similar in their general character to those which I have already described as having been made during the period referred to in the existing area of Nelson. The details, therefore, may be very briefly reviewed, though I must point out that here, as at Nelson, I found it difficult to get at the real state of affairs, owing to the fatal confusion introduced by the early surveys.

The New Zealand Company's work, which included the Wairau and Wakefield Downs, had been done in blocks, by contract, with theodolite and chain, and drawn to compass meridians on the scale of four inches to a mile. It was neither triangulated nor checked. Traverses, carried through the different blocks into which the work was subdivided, seem to have formed the framework on which the sections were to be tied. Large errors, nevertheless, were often introduced—in this way. The traverses, as finished, were laid down on paper, and the sections were then designed on paper also. When these sections came to be laid out on the ground, it often happened that, owing to the generally shaky style of the work, they would not fit in as designed. But the plan was left unaltered, so that plan and ground were made to disagree, and do so still in many cases; and the plan on the grant does the same. Fortunately, the grant was usually made out for a smaller acreage, by about two per cent., than that of the designed section, so that only in a few cases was injustice done. The consequences, however, of this loose sort of work, and of the use of different meridians and perhaps different measures, did not stop here. Neighbouring blocks had frequently to be humoured at their common edges in order to bring them together, and everlasting trouble has been the result. In one case, in the Wairau, two surveys are known to have been juxtaposed on the map which would not really close within a couple of chains, and a dispute arising from this error is now going on. Again, whenever there has been occasion to piece new surveys on the old, it has often proved difficult, if not impossible, to assimilate the two edges, so carelessly had the old work been done. But perhaps the most serious feature in the character of these surveys is that, though the field-books exist, and the original maps (some of the latter in a very worn state), the books do not show the connections between the traverses and the section lines—if indeed, which is doubtful, systematic connections were ever made—and the maps show no bearings whatever. So that it is to be feared little or none of this work could be replotted or engrafted on a triangulation, except by surveying a large part of the detail over again.