

Coast, amounting to 7,000 acres, and for two blocks in the Amuri district containing 27,000 acres. The former of these will be taken in hand by the District Surveyor, at Reefton, who will require some assistance, and the latter by Messrs. Smith and Thompson. Mr. Murray is to complete triangulation of the west side of Blind Bay, &c. JNO. S. BROWNING, Chief Surveyor.

WESTLAND.

Topographical Surveys were executed by Messrs. Murray and Wilson, and comprised odd portions of inland country in the southern part of the district. The total area of these surveys amounted to 59,128 acres, and the average cost was about $\frac{3}{4}$ d. per acre.

Topographical and Trigonometrical Surveys.—62,960 acres were surveyed, at a cost of about $\frac{1}{2}$ d. per acre. Several of the valleys of the southern rivers which lie within the area reserved under the Midland Railway contract, and within which applications for lands have been lodged with the company, required to have the minor triangulation extended to them, so in the case of the purely topographical surveys the work was combined with settlement surveys, which had the effect of reducing its cost very considerably.

Rural and Suburban Section Surveys.—Comprising isolated sections distributed over the whole of the district. The total area amounted to 7,217 acres, and the total number of sections was eighty. In connection with many of these surveys long traverses connecting with trigonometrical stations had to be made, and, taking into consideration that the sections comprised forest lands, and that in most cases the traverse connections referred to had to be taken through dense bush, the comparatively high cost, 2s. 2 $\frac{3}{4}$ d. per acre, is fully explained. Under the authorised scale of survey-fees it will not pay a private surveyor to undertake the surveys of small scattered allotments in a densely-timbered country like the West Coast, and such expensive work will, therefore, of necessity always fall to the lot of the staff surveyors. It was with the view of reducing the cost of these spotting settlement surveys, as well as to facilitate future surveys, that I combined, wherever it could be done, the section survey with extension of minor triangulation and topographical surveys. The total amount of bush-cutting effected during the year in connection with the surveys done by Staff Surveyors Murray and Wilson is 33 $\frac{1}{2}$ miles—namely, Murray, 23; and Wilson, 10 $\frac{1}{2}$ miles.

Town Section Surveys.—Comprising the last few blocks (forty-seven sections) in the Native portion of the Town of Greymouth, which completed the whole of the sectional survey of the Greymouth Native Reserve, at which Messrs. Roberts and Murray were engaged during the previous year. The standard survey of the Town of Greymouth, and the resurvey of the divisions and subdivisions of the Native portion of Greymouth (originally cut up by private surveyors) were carried on together, and hence the comparatively high cost per allotment.

Gold-mining Surveys.—994 acres were surveyed, costing 6s. 1 $\frac{1}{2}$ d. per acre. They consisted principally of quartz-mining leases, and river- and beach-dredging claims. All but one of these surveys were executed by contract surveyors Smythe, Lord, and Wylde: the cost of these surveys is in every case defrayed by the applicants. I regret to say that the quartz-mining industry in this district has not developed as was expected; and likewise that the number of dredgers at work is exceedingly small as compared with the number of dredging claims taken up during the year. In regard to the erection of dredging plants, however, allowance for delay must fairly be made, seeing that this particular and new branch of mining is but passing through its initiatory stages, and the most suitable dredgers for the various descriptions of ground have by no means been determined on yet. There are now eight different kinds of dredgers on trial on the Coast, and not one of them has proved to be altogether suitable. There is every prospect, however, that the difficulties connected with this class of mining will shortly be overcome, and that before long dredgers will be at work on all the auriferous beaches and rivers of the West Coast.

Road Surveys.—Twenty-five miles of this class of survey were done, at a cost of about £18 per mile, covering surveying, levelling, preparation of longitudinal and cross sections, &c., ready for contract. Twenty-two miles of these, comprising the extension of the Main South Road from Cook's River to the Mahitahi, and from Arawata to the head of Jackson River, were done by Staff Surveyor Murray; and 3 miles, comprising two deviations on the Christchurch Road, by contract surveyor Smythe.

In every case these roads traversed forest lands throughout their entire length.

Other Work, amounting to £56 12s. 8d., consists principally of work done in connection with the compensation payments under the Mines Acts to settlers in the Arahura and Teremakau River Valleys, and of sundry surveys for the Native Trust Department; it also includes assistance of one the staff surveyors at pressing office-work.

Office Work.—I am pleased to report that the arrears have been well-nigh overtaken, and that I hope to be able soon to furnish the remainder of the survey district maps for photo-lithographing. These lithos are much wanted, and, in view of the taking of the census returns in the early part of 1891, their preparation should no longer be delayed.

General Remarks.—Work done for other departments amounts again to a considerable sum during the year.

Field Operations, 1890-91.—It is proposed to complete the settlement surveys still on hand, and certain circuit and road traverses, as opportunity offers. Mining surveys and surveys of lands disposed of by the Midland Railway Company will, as heretofore, require first attention. I do not propose to extend our minor triangulation: that which has been completed up to date will probably suffice for many years to come; but I shall embrace any good opportunity to complete the topographical work and fill up the few gaps that still remain on our maps.

GERHARD MUELLER, Chief Surveyor.