

ballasting were partially completed for 14 miles of the easy country at the north end.

It should be explained, in order to make the chainages and distances mentioned understandable, that the original surveys were carried out from either end, and therefore the chainages carry on from Wharanui on the north end to the Kahautara River going south, while on the south end they run from Parnassus to the Kahautara River going north. Consequently, while the Kahautara River is at 103 m. 48 ch. on the northern chainage, it is also at 73 m. 40 ch. on the southern.

The work involved in the construction of this line at the date instructions were received to proceed was, therefore, the completion of formation, bridging, tunnelling, platelaying, and ballasting over a length of 30 miles which had practically only been scratched, and in addition the complete construction of 33 miles of line through heavy country in which the survey itself had not been finalized.

When I mention that there are twenty tunnels to pierce of an aggregate length of some 3 miles; that there are a large number of bridges to construct of all sizes and types, some of them over very large and turbulent rivers, such as the Hapuka and the Clarence; that owing to the location of the line along a rocky and precipitous coast it is necessary to provide in many places for extensive sea-walls and protective works; and that, in order to accommodate the railway and main highway on the narrow coastal strip, it has been necessary over a considerable length to completely relocate and deviate the main highway, it can be realized that this is a work of considerable magnitude.

Almost the whole of the accommodation which had been provided when work was previously in hand had been disposed of, and the plant and machinery had been sold or transferred to other works.

On account of the magnitude of the work it was decided to divide it into two sections, each under the control of an experienced construction engineer and staff.

Instructions were issued to resume work at the beginning of July, 1936, and within three months employment had been given to 700 men (which was considerably in excess of the total number employed when work was closed down in 1931), accommodation had been provided and plant and material were starting to arrive, an engineering staff had been built up, and the general organization was well in hand.

The natural configuration of the country and the location of the principal works resulted in the decision to make the Kahautara River the dividing-line between the northern and southern sections.

The housing of the men and their families presented a problem on account of the shortage of building-materials, but as far as the south end was concerned the accommodation lying unoccupied at the Waitaki Hydro-electric Power Station was available for transfer and filled a gap in the building programme, while timber and other supplies were being assembled. By the end of 1936 the main difficulties in regard to accommodation had been overcome.

At the north end large timber-supplies were ordered direct from the West Coast, and a large force of carpenters was employed at both ends, the building of accommodation being pushed on very vigorously.

In order to employ the maximum number of men at the earliest possible date all efforts were concentrated on providing single accommodation first of all, and when the works were fully manned married accommodation was erected.

There are now approximately 1,000 men employed, and these are distributed throughout twenty-three camps. Of these men, approximately 400 have been provided with married accommodation, and the remainder are in single quarters.

The various camps have been very completely equipped, roading, water-supplies, and sanitary services having been built, while a number of schools in accordance with the Education Department's standard have been erected and staffed.

At the principal camps Diesel-engined electric-generating equipment has been provided, and the camps wired for electric light and power.