

well as occupied unnecessary time. As I was on ahead, selecting and laying off the line, when this needless work was done, I could only blame the overseer (whom I afterwards discharged) for allowing it, but could neither prevent nor undo it. A little extra time, again, was consumed by my orders in draining some parts of the road, and in taking out the gradients flat enough to serve for the permanent road, where the formation of the ground showed that that road must be identical, or nearly so, with our line. We had also to cross one awkward gully, which, from the necessarily cursory and imperfect view I had had of the country at the time I wrote my reports, I fancied we could have avoided, but found on laying off the line that I must either cross it or involve myself in far heavier work. A delay which occurred in remitting the men's pay from Wellington, by detaining me in town till all the work marked off was finished, and so compelling me, in order not to keep the men idle, to mark off more in what was evidently the direction the permanent line would have to take, involved us in about a fortnight's extra work, as, had I had time to burn off and examine the ground before laying off the line, I should have seen that I could have got a shorter, cheaper, and sufficiently easy line for the pack-road in another direction.

It was the delays arising from the above causes which prolonged the work of the road till the beginning of May; and as, from the harvesting of the maize and potatoes, I had had during the previous month (except for a few days that I induced some of the hands to remain when they came up for their March pay) only from three to six Natives at work, and there was no hope of getting more till the feasts and meetings arising out of the taua's return were ended, it was decided to discharge the few remaining hands, and set me free to select and lay off the remainder of the line. The summer, however, had been lost, and we have had to do this latter work in such dreadful weather, that for more than eight weeks we had to dry our clothes every night. This work, under such circumstances, took half as long again, and cost half as much again, as it would have done in fine summer weather; but still the expense of it has not been anything unreasonable, as I shall presently show.

The above have been the principal causes of delay and increased expense, but there have been others as well. When I was made Paymaster for the work, the appointment was coupled with restrictions rendering Mr. Buller's signature necessary to all estimates for money required, and to all vouchers before they were paid. The time lost in journeys to and fro to obtain these signatures, and the delay above mentioned in remitting the money from Wellington, added so much to what was necessarily occupied in paying and accounting, that in all, nineteen days of my time were consumed in paymastership business. In an interim report shortly after I was appointed, I pointed out the inconvenience and absurdity of making a person thirty miles away from bank or post office, paymaster, and requiring a gentleman in town who never saw the work to certify to the time of the men engaged on it and the money needed to pay them; and the arrangement was modified as regarded the signatures to estimates, but as no further sums were remitted to me, the alteration made no difference. On three occasions I had to come to town to consult Mr. Buller about matters arising out of the work, which occupied six days more; and on three others I have had to undertake similar journeys to fill in returns or write reports, which I could just as well have filled in or written on the spot, if the necessary papers had been forwarded to me by the messenger who fetched me down. As I had to come longer distances on these occasions, and on one of them was delayed by floods going and returning, fifteen days have been needlessly consumed in this way. In all, forty days of my time, besides what was taken up in preparing the papers, have been occupied with things which have not advanced the road a yard, and which I submit cannot fairly be charged against it, from an engineering point of view. During part of the time, too, my men have been kept standing idle through my absence.

As regards the expense of the work, out of about thirty-four miles of continuous track included in my estimate of £350, about eighteen miles have been completed for about £220 for the actual work, a result which,—considering the drawbacks I have mentioned, as arising from the employment of Natives, &c.—I submit, proves conclusively the fairness of my estimate. With European labour it would have cost about £150. The officers' salaries, which I have shown were more than trebled by the delays, were about £210, making in all about £430 as the total cost. This however includes the nineteen days of my time occupied in paymastership business, and if this be deducted, it brings down the cost to less than £22 per mile at which a pack road eight feet, and in many places ten feet, and even twelve feet wide, through a country hitherto deemed impassable, and which opens up so fine a district, and gives such direct and easy access to the interior of the Island, cannot be considered dear to the Colony, though it is more than the work would have cost if done in the ordinary way.

The selection and laying off of the leading line beyond the end of the finished work has cost £151 7s., which is at the rate of £11 per mile. This, however, includes the pay of the Natives whom Mr. Booth sent up as guides, and if this be deducted, it reduces the cost to about £10 per mile. The contract price ordinarily charged by surveyors for cutting survey lines through bush and scrub, such as the road traverses, is £8 per mile; and more where, as in the case of the road, the work is so far from a town or Native settlement as to necessitate the conveyance of everything required for long distances on pack-horses and men's backs. Survey lines run straight for long distances, and comparatively little care is necessary in laying them off. A road line, on the contrary, requires a thorough and careful preliminary examination of the ground, so as to curve it to suit inequalities of surface, and arrive at the best crossings of streams, low saddles of hills, &c.; it has also to be cut along hill faces and the descents to streams in such a way as to give proper gradient levels, and (as in this case the work was to be done by Natives) these last had to be more exactly defined by marks on trees, and on steep faces by spade cutting, sometimes for considerable distances. Although, therefore, the work has cost more than it would have done in summer, yet I do not think any one can consider the expense unreasonable, and, as I intimated at the outset, it forms no part of my estimate.

I did my utmost to keep down the cost, working whenever it was possible for men to do so, and even inducing my assistants to forego their dinner hour, and leave off work at 4 p.m. instead, in order to prevent Government time being trenced upon through the necessity of getting back to our camp by daylight. The risk I was running of losing my permanent appointment as Town Clerk and Surveyor through the undue prolongation of the work; the loss I was sustaining, both in respect of my salary