

Mr. A. D. DOBSON to the PROVINCIAL SECRETARY, Nelson.

REPORT ON WOODEN TRAMWAY from Brunner Mine to Cobden, and estimate.

SIR,—

I have the honor to forward you the following report upon the advantages likely to be obtained by constructing a wooden tramway between the Brunner Mine and Cobden, and the approximate cost of such work:—

1. On a well-laid wooden tramway, an average horse should be able to draw about two tons. By working a team of three horses, with one driver, and making one trip only per day, thirty-six tons a week would be brought down. Taking the horses' keep at £1 per week each, and the driver's wages at £3, we get 3s. 4d. per ton as the cost of haulage, which is about half the sum the boats bring down coal for. There would be also the advantage of a continual supply being maintained, and consequently a corresponding reduction in the price of getting the coal out.

2. To construct the tramway on the cheapest possible scale, the existing road should be adhered to as much as possible, and the line should follow the natural surface wherever practicable. I believe it is possible to set out a line so as to have no ascending gradients between the mine and Cobden. I would recommend making the descending gradients as steep as safety would permit, to save expense in the first cost, being of opinion that they could be lowered without stopping the traffic in the event of the line being required for a locomotive, and there are only two places where it would be necessary to make steep grades, namely, at the saw-mill terrace, and at the coal-mine terrace: all the rest of the road would be practically a flat.

3. In the following estimate, I have calculated for a 3-foot gauge, but if it was thought advisable to have it 3 feet 6 inches, it would make but little difference in cost. In clause 1, where I reckon haulage at 3s. 4d., I have not taken into account up-keep or percentage on cost of horses and harness, &c. I did this intentionally, wishing to show the net cost only, leaving the other items to be provided for out of the profit on the coal.

	<i>Estimate.</i>	£	s.	d.
Six miles sixty chains 6+3 rails, at 10s. per 100	534	10	0
Six miles sixty chains sleepers, 22 per chain, at 1s. each	594	0	0
Ditto, keying, gravelling, 8 keys, £2 per chain...	1,080	0	0
Six miles forty chains formation, at £3 per chain	1,560	0	0
Twenty chains rock side cutting, at £20	400	0	0
Loading, stages, turntable, &c.	600	0	0
Contingencies, at 10 per cent.	476	17	0
Total cost of construction		£5,245	7	0

4. In this estimate, the item £3 per chain for formation may seem high, as I would propose laying the line on the existing road wherever practicable; but some very rough ground has to be passed near the mine, requiring a number of small bridges, which would be costly, and counterbalance the saving on the other portions of the line. Taken altogether, I consider this an exceedingly low estimate, and it would be out of the question doing it for any less. The rock cutting is very low, £400. Besides the cost of construction, before work could be commenced, horses and rolling stock would be required. Taking my former estimate, that a horse would bring two tons per day in, say, two-ton waggons, it would require twenty-five waggons and horses to get down fifty tons per day. Rough waggons would cost, say, £30 each, and average the horses and harness each at same figure, gives £1,500 as the cost of rolling stock. The figures might, perhaps, be materially lessened by using large waggons and making the horses go more trips than I have estimated for; but in any case, the cost would be over a thousand pounds.

5. On the completion of a working survey, it might be found that the cost might be lessened in places; and also, for the present, it might be found that it would do to deliver the coal at the mouth of Coal Creek. Steamers could easily get there when the river is not in flood, and the cost of the rock side cutting avoided for the present. To render the work less costly, the West Coast prisoners might all be sent to Cobden and kept at the rock work.

6. Failing an iron line, I conceive a wooden one to be the best the Government could adopt, and have no doubt that it would prove a great boon to all connected with the coal trade. I think there would be no difficulty in completing the work in six months, as there will be numbers of men seeking work as soon as the General Government roads are finished.

I have, &c.,

A. DUDLEY DOBSON,
Provincial Engineer.

The Provincial Secretary, Nelson.

(Extract from private letter from Provincial Engineer to Provincial Secretary, Nelson.)

I FIND that in my first estimate of the amount a horse would draw, I was a long way out. They say here (Greymouth) that the horses draw four tons on the lines here, which have steep inclines to ascend in places. Now, the Brunner tramway would be practically a dead level, so that Dent's estimate of six tons will not be out of the way.

MEMORANDUM for the CHAIRMAN, Colonial Industries Committee.

SIR,—

Wellington, N.Z., 15th October, 1872.

In reply to your memorandum of the 4th instant, in reference to the West Coast harbours, and other points, I have pleasure in stating that I know the character of harbours of the West Coast of the Middle Island of New Zealand, and I am of opinion that iron vessels, propelled by twin screws of the following dimensions, are best adapted for navigating those and bar harbours generally:—Say, gross