

821. Are you acquainted with Opunake?—Yes, I have been there once or twice.

822. And, from your observations on the spot, do you think that harbour could be easily improved?—Yes, I think that if there were an expenditure of £5,000, or £10,000, on it, it could be very greatly improved, and sheltered from the westerly winds.

823. Are there any natural reefs that would facilitate the improvement of the harbour?—Yes; and there are plenty of blocks of stone handy for any stonework that might be required. The stone is very hard, and boulders of large dimensions are lying on the beach. This stone is well adapted for the construction of a breakwater.

824. Should the New Plymouth harbour works prove a success, would that port draw the trade from Patea and Waitara?—I do not think it would affect the trade of those places very materially. I look upon the New Plymouth harbour scheme as one that is more likely to make New Plymouth a harbour of refuge for ocean-going ships, but the trade of the district would be carried on principally with the two ports of Manukau and Wellington, by means of coastal steamers trading to Patea and Waitara.

825. And, with railway communication through the districts leading to those ports, do you not think the commerce of the place would be fairly met?—Yes, it would be very well met.

826. What, in your opinion, is the nature of the exports from New Plymouth?—Fat stock, dairy produce, and wool.

827. Do you think the district is better adapted for grazing purposes than for the growth of grain?—Yes, on account of the moisture of the district. There is a heavy rainfall there, and I think that as far as wheat, for instance, is concerned, there would always be a risk in harvesting it. Still there would always be a considerable quantity of grain grown each year. In fact, there has already been a mill established at Hawera.

828. But you think that, from the nature of the soil and climate, it would, in the main, be more profitable to raise stock than to grow grain?—Yes, I think so. But as the ground, after a time, will get very foul, from its richness as grazing ground, cultivation will become necessary to sweeten it. I may say that the Natives grow maize successfully there; and all root crops grow luxuriantly.

829. *Mr. Barron.*] What is the extent of lands still in the hands of the Natives in the Provincial District of Taranaki?—1,250,000 acres.

830. And is that land of equal fertility to that which has been acquired by the Government?—Parts of it are; but, area for area, the Native land is as good as that which has been acquired by the Crown.

Mr. E. C. JONES examined.

831. *The Chairman.*] You are Engineer to the Wellington Harbour Board?—I am.

832. Will you look at the map on the table, which is a plan of the New Plymouth harbour works. Did you make the survey for that work and prepare that plan?—I made the survey; but the map is a copy of the plan I drew.

833. Did you take the soundings indicated on the site of the harbour works?—Yes.

834. The letter *R* occurs on this map in certain places. Will you state what that letter is intended to indicate?—Yes; it indicates a rocky bottom.

835. What is the general character of the bottom within the district included in the proposed harbour works?—It is mostly all rock, covered with sand and shell. It is not covered in all parts. It is an uneven bottom, and the rock protrudes in some places. The sea is so heavy there at times that it shifts the sand about, and where you would find rock to-day you would find none to-morrow. I took a section along the line of the breakwater.

836. What depth of sand did that section indicate?—I do not remember now, as it was in 1877 that I made the survey.

837. Have you had much experience in the construction of works similar to the proposed works at Taranaki?—I have had general experience as an engineer for over twenty years.

838. What, in your opinion, would be the approximate cost of the concrete work for a mole of that character?—I am not prepared to say without some consideration.

839. Could you furnish the Committee with your opinion on the subject in the course of a few days?—Yes, I will do so.

[*Document put in.*]

SIR,—

Westminster Chambers, Wellington, 8th August, 1881.

In compliance with your request, I have the honor to state that, basing my calculations upon information herein-after referred to, the cost of concrete for the New Plymouth breakwater, as designed by Sir J. Coode, will be as follows:—(1.) The whole of the block-work will cost £2 12s. 6d. per yard. (2.) The parapet wall, and other parts shown in the plans to be constructed *in situ*, will cost £2 10s. per yard.

The following shows details of this:—

	Concrete in blocks.			Concrete <i>in situ</i> .		
	£	s.	d.	£	s.	d.
Cement	1	6	3	1	6	3
Quarrying, breaking, loading and carrying stone, and getting sand	0	9	0	0	9	0
Mixing and making blocks	0	2	6			
Mixing				0	2	0
Setting	0	2	0	0	1	0
Railroad	0	1	0	0	0	6
	2	0	9	1	18	9
Contingencies (one-eighth)...	0	5	0	0	4	10
Profit and management	0	6	9	0	6	5
	£2	12	6	£2	10	0

My calculation is based upon the information supplied to me that the Harbour Board at New Plymouth have imported Portland cement at a cost of £5 1s. per ton, and that they have formed a railway from the works to the quarry, and that they have all the necessary plant for such works.

I have, &c.,

EDGAR JONES,
Engineer.

To the Chairman, New Plymouth Harbour Works Committee.