

107 Then, taking 7 yards to the ton, there would be about 13,500 yards of cement required for the whole work?—Yes.

108. And, as the difference between your first estimate and the second one is £1 2s. 6d. per ton, the extra cost of cement alone would be about £15,200?—I estimated the amount about £4,500.

109. *Mr. Weston.*] In your opinion will the Harbour Board have to purchase very much more plant to complete the work?—It is all purchased.

110. Just give me your opinion with regard to the permanency of this work if it were done, regard being had to the action of the sea, and your knowledge upon the subject?—I should say with perfect safety I should recommend that concrete *in situ* should be used for that portion of the work from low water to the top of the work, so as to make it homogeneous from beginning to end, the same as the Aberdeen and Fraserborough Harbours. It is much cheaper and better; in fact all harbour works are built that way now. No harbour is being built such as Sir John Coode suggests.

111. Would there be any likelihood of danger to vessels lying alongside the jetty if concrete blocks *in situ* were placed?—No.

112. *The Chairman.*] You gave as an estimate £38,624 as the approximate cost of the plant?—Yes.

113. Can you state what has been the cost of the plant used at Oamaru for the works there?—I cannot; but the conditions requiring the use of plant in the two places are so different that no comparison can be drawn.

114. You wish the Committee to understand the work to be much more costly at New Plymouth?—Yes; that is if the Taranaki breakwater were constructed in the same manner as at Oamaru, then the Taranaki work would cost a great deal more.

115. What is the difference in the mode of construction?—The whole of the Taranaki work is done by steam and machinery.

116. We understand by that that at Taranaki the rock has to be quarried and then crushed for the purpose of mixing, while at Oamaru there is abundance of material without that process?—Yes; and there is another thing. At Oamaru they object to incorporate with their blocks large pieces of stone. Now, the best mode is to incorporate as many large pieces as possible, because you get the strongest work at the least cost.

117 You do not know of your own knowledge what they are doing at Timaru or Oamaru?—No.

118. And that they are using large blocks of stone in conjunction with smaller ones?—No.

119. Will you tell the Committee whether, in the plant which you purchased for this £33,224, the engines—Goliath and Titan—were approved by Sir John Coode?—They were not. My instructions were to purchase that which I considered necessary for the work.

120. What assistance did you obtain, to enable you to select these particular machines?—A gentleman of the name of Lyon, who designed a good deal of the London Mint machinery. They have been tested to 40½ tons.

121. Have they been travelled with that load upon them?—The Titan is not intended to travel at all with a load. The locomotive takes the block underneath the Titan.

122. Are you aware that the machines in use for works of this class in Timaru and Oamaru have been subject to a test of 60 tons?—I am not aware; but this Titan can pick up a block, as far as strength goes, of 70 or 80 tons.

123. *Mr. Weston.*] How long would it take, in your opinion, to complete the work to *XY*?—It can be completed in four years by day labour. It is not a work which can be let by contract, unless you let the whole of it, and then, of course, the contractor who had capital enough to undertake it would require £25,000 profit upon it.

124. *The Chairman.*] What wages have you been paying up to March last?—From 5s. to 6s. per day for labourers; 7s. for quarrymen and gangers; and £4 per week each for two foremen.

125. Did the men get any other consideration?—No. I believe it is the intention of the Board, on my recommendation, to erect cottages for them; because it is almost impossible for men to do work of this nature without living on the spot. The cost would be about £200, and the cottages would be let to the labourers. About sixty or seventy are necessary for the work, and I shall have to find accommodation for about forty men. The men will not be in separate cottages, but in separate rooms.

126. Are the men paid in wet and dry weather?—Only for the time they work.

127. *Mr. Montgomery.*] Can you get good labour readily at 5s. or 6s.?—The day work has been satisfactorily done.

128. *The Chairman.*] You prepared certain estimates, which were given in your confidential report to the Harbour Board. I would like you to state what proportion of those estimates represented labour?—It is impossible to give an exact calculation now.

129. How much was represented by wages at that time?—Roughly, I should say, deducting £90,000 for cement and plant, the rest would be labour.

130. That is, taking your estimate of £195,000, and deducting £90,000, the rest would be labour—£105,000?—Yes.

131. Then I see you state also that a reduction of 1s. per day in the price of labour represented a difference of £25,000 in the cost of constructing the work?—Yes.

132. Then, wages being 7s., the estimate of the total cost of labour would have been £175,000, or seven times £25,000. If your estimate is correct, the total cost of labour must have been £175,000?—On what estimate was that?

133. It occurred in your evidence before the Committee last year. Can you reconcile the discrepancy?—No.

134. The effect would be, if any reliance is to be placed in that statement, that the labour, when it was 7s. per day, would have amounted to £175,000, and that, as the total estimate was £195,800, there would have been only a margin of £20,000 for all materials. That is all I wish to ask. Do you desire to make any statement?—Only this: I believe the work can be completed, for the money which the Board now has, to *XY*.