

WEDNESDAY, 14TH JUNE, 1882. (Mr. MUNRO in the Chair.)

Mr. C. Y. O'CONNOR, Inspecting Engineer, Middle Island, examined.

Mr. O'Connor.

14th June, 1882.

90. *The Chairman.*] Mr. O'Connor, can you give us any information on this subject?—As I understand it, the main question is whether any very great result can be obtained by a much smaller expenditure of money than Sir John Coode recommends, and my reply to that would be that I really do not think any great result can be obtained unless the works go out a long way. A glance at this map shows that the works have to be carried out a considerable way before they come to the beach line at all. No works, I think, can produce much result unless they go out beyond the moving shingle beds at the river entrance into deep water.

91. *Mr. Fergus.*] We have it in evidence that on the Westport side of the river the accumulation of sand is not from the sea, but to a very large extent comes from the river?—No doubt.

92. Then if the wall was made on the eastern side of the river for half a mile, surely certain results would follow. Do you think that by making the wall on the Westport side for a quarter or a half mile it would have a tendency to deepen the bar, by preventing an overflow of the water?—I think that anything which tended to keep the river in one defined course would do good, but I think also that unless you go outside the influence of the shingle beds, which are always being moved by the sea, no work can be relied on as likely to permanently produce a deeper channel. In order to do permanent good you have to go outside these shingle beds, which are affected by every storm. I believe it is really the storms from the sea moving the shingle banks which divert the river more than the floods in the river itself; it is the river which puts the shingle there, but after that it is the sea which chiefly moves it about. At Greymouth I have known the sea to heap up the shingle into an island in one storm, almost in the line of the river, which would then turn out of its previous course.

93. We have it in evidence that for three and a half years the channel remained almost stationary, since then we have evidence that it shifts very little and very seldom. The question is, if you could prevent this overflow, do you not think it might have the effect of reducing the bar, and taking it away to a certain extent. We have also the evidence of captains of vessels that it is a very short bar—not the length of a vessel?—The bar is not very large at any one time, but it alters its position with changes of wind, so that it may range over a large area.

94. *The Chairman.*] But it does not change often?—No; it changes rather gradually than often. Sometimes it shows a tendency to change continuously in one direction. I have known cases where it remained stationary for a length of time, but its doing so depends on the weather. One great advantage Westport has, is, that it is sheltered from the heaviest seas to a great extent.

95. So that what might take place at Greymouth, for example, in the way of rapid changes, would not take place at Westport to the same extent?—No.

*Mr. Macandrew.*] Supposing this coal field were your own private property, and you had available £135,000, say, wherewith to improve the entrance for navigation, do you think you could do anything material with that?—I think if I had the £135,000, I should go on spending it towards a work which was to cost eventually half a million, and I should anticipate getting some little advantage from the work as I went along, but not very much until it had got a good way out. We have now spent £100,000 at Greymouth, and we have only just got to the outside of the shingle influence, and have produced no material benefit as yet.

97. Supposing that money had been spent at Westport, do you think it would have shown better results?—I do not think so, I think it would have been rather the other way, you would have to go farther out than at Greymouth, because the water deepens quicker at Greymouth than it does at Westport.

98. Then you think one would be more likely to make a harbour at Greymouth for a specific sum than at Westport?—No, I do not quite say that—for results at Greymouth are not necessarily permanent—you can get out quicker into deep water, but there is no guarantee of the results being permanent, because the shingle at Greymouth travels so rapidly along the coast. As regards Westport, I am inclined to think that, though necessarily costly to start with, any large results would probably be permanent, and if the training-walls are carried right outside the influence of the shifting shingle near the shore, as recommended by Sir John Coode, I have very little doubt that the effect will be to secure a deep entrance, for, at any rate, a very long time to come.

99. Are you of opinion that £135,000 could be spent as part of the extended operations without prejudice?—I think so.

100. It would be complete in itself so far as it went, and yet form part of the ultimate design?—Yes; so long as it was not attempted to make this £135,000 go so far as you could by any means extend it. What I mean is, that I think it would be inadvisable to stretch that amount of money over as great a length of work as it might be possible to extend it over, because then the works would probably not be strong enough. It was attempted in Hokitika to construct with £30,000 a length of walling estimated by Sir John Coode to cost over £100,000, and the result has not been satisfactory.

101. *Mr. Wright.*] By spending £135,000 as part of the half million required for the complete plan, what result would you anticipate?—I do not know that one could guarantee any absolute result from that in itself, but you might possibly obtain some little advantage in the permanence of the position of the channel so far. Of course, if you did it would be better for navigation; but I do not think you could depend upon any increase of depth.

102. Would you anticipate more profitable results from investing £135,000 in improved colliers, regarding it as a commercial enterprise?—That would depend very much upon what one could get in the shape of improvements in colliers for the money, I do not know exactly myself what it is practicable to obtain, that is to say, I do not know how many tons of coal could be carried in safety with a depth of 10 feet. If one could obtain any great advantage in the increased tonnage of the ships by spending £135,000, then I have no doubt that the expenditure would produce greater results in that way than if £135,000 only were spent on harbour works.