

Mr. O'Connor: I think so; and if I were a landowner here I should think it a satisfactory result.

In reply to Mr. Wilson, Mr. O'Connor explained the arrangement of the dredging machinery, and to the chairman explained that separate dredges with barges do not work so cheaply as hopper-dredges.

In reply to a remark by the chairman,

Mr. Marchant said he would like to explain that the putting-down of the random blocks had not been the cause of the shingle making up to the breakwater. During the twelve months following October, 1885, the record plans showed that the shingle retreated 90ft. from the rock island and made 90ft. beside the breakwater, and that was before the random blocks were put down. At that time the breakwater was being under-scoured: 200ft. of it had caverns in it, and other parts showed signs of weakness. Mr. Goodall would tell them that there were often subsidences during construction, and that to cure them he put down random blocks. Those settlements were threatening the existence of the breakwater, he considered, and he recommended the Board to have some blocks put down—but only half the number the Commissioners had recommended for the outer portions. Mr. Blackett passed through after visiting Oamaru, and warned him not to spare the random blocks, as the want of them had caused a portion of the Oamaru work to be wrecked. As the blocks were put down, it was found they cut down the gorging wave which ran to the root of the breakwater, but they did not reduce the reflected wave. That was the history of the random blocks. Even supposing that the shingle would have been kept back if they had not been put down, the breakwater would have been wrecked by under-scour. But he did not think the random blocks were to blame for the change. Other explanations were, the change in the direction of the work, and the destruction of kelp about the rock island.

Mr. Hill: Was your attention called to the "range" within the harbour, and the possibility of constructing some slight work to prevent it?

Mr. O'Connor said that was not part of the reference to them. He saw that there was a range, but he did not see how they were to stop it without narrowing the entrance. That was a question of navigation. The best thing at present seemed to be to make a wharf along the north mole.

Mr. Manchester would like to know whether there was any danger of sandbanks being formed in front of the harbour-entrance, and whether the removal of the shingle would be a safeguard against them.

Mr. O'Connor said that that was one of the reasons why they recommended removing the shingle instead of impounding it. Evidently a good deal was converted into sand and carried away in suspension, and some of it might be dropped in front of the harbour. There was certainly a little accumulation, but at present there was not sufficient data to enable them to define the exact extent of it, and they therefore recommended systematic levelling, measuring, and sounding, and plotting the levels and soundings, in profile, on longitudinal sections of very distorted scale, so as to be able to record and realise the changes very distinctly.

Mr. Marchant (to the chairman) said he had reported that he found the water shoaled from 27ft. to 24ft. on a certain spot. This indicated a deposit of 3ft. The last sea had cut off the top, so that only 2ft. of the deposit was left. He had no doubt about the correctness of the soundings.

Mr. Hill said there was always a quantity of silt moving about the roadstead before the harbour was commenced. He could remember "sweeping" for slipped anchors in the old days, and finding the chains buried three or four feet by a single storm, and on another occasion a diver fell into a hole 8ft. deep scoured round an anchor.

No other questions being asked,

Mr. O'Connor briefly summarised the items in Mr. Goodall's memorandum, and his replies thereto, and repeated, after reference to Mr. Marchant's data, that they could not reckon having to shift less than 80,000 yards, equivalent to 120,000 tons, a year (1 yard equals $1\frac{1}{2}$ tons).

The Chairman hoped every member would study the reports, and make himself fully acquainted with the views of the Commissioners before next meeting.

Mr. Morris moved, and Mr. Wilson seconded, "That the Harbour Board desire to acknowledge the skill, care, and attention, which have evidently been devoted by the Commissioners to the questions submitted to them." Carried unanimously.

Mr. O'Connor said he was much obliged to the Board, but he was scarcely entitled to any thanks, as he had simply done his duty. The subject happened to be rather an easy one for him, as he had had a good deal to do with it before. Nevertheless, he was much obliged to the Board for their kindness in passing the resolution.

Mr. Goodall also returned thanks. He was obliged to the Board for remembering him, and it was and always would be with him a labour of love to do anything for the Timaru Harbour.

The meeting then broke up.

[Approximate Cost of Paper.—Preparation, nil; printing (1,500 copies), £7.]