

186. That above the mouth of the North Lagoon the current is diverted from the old beach and drift-beds occurring there by several training-walls—the “Middle” and “Tainui Street,” which spring from the beaches and, sweeping round to the direction of the base, throw the current over to the south—and that another training-wall, for the same purpose, springs from the rocky face at the mouth of Coal Creek, and passes under and below Cobden Bridge.

187. That on the south side from the Cobden Bridge, to the mouth of the South Lagoon, lies the retaining-wall along the railway-line, and lower down, the wharf and berthing for the ships, which affords a range of about 1,900ft., and has at its upper end accommodation to the extent of 450ft. with a depth of 10ft., followed by 650ft. with a depth of 12ft., and then 800ft. with a depth of 15ft., at low-water spring-tides.

188. That the straight course of the river below the South Lagoon, and between the breakwater and the lower training-wall, affords a navigable channel in the course of the scour of 23ft. at high-water springs, which, although changing to some extent, is defined by movable beacons above.

189. That the depth of water on the bar is a varying quantity, corresponding to the power exercised in either direction by the contending forces of the sea and of the river, and since 1880 has ranged from a minimum of 10ft. to 12ft. for 305 days in that year, to a maximum for 15 days of the years ending the 31st March, 1888 and 1889, of over 24ft.

190. That during these latter years the range of depth was as follows:—

				1888. Days.	1889. Days.
12ft. to 14ft.	....	....	....	6	1
14ft. to 16ft.	....	....	....	108	11
16ft. to 18ft.	....	....	....	105	60
18ft. to 20ft.	....	....	....	119	146
20ft. to 22ft.	....	....	....	28	99
22ft. to 24ft.	....	....	....	....	33
24ft. and over	....	....	....	....	15

191. That, so far as the depth of water on the bar is concerned, there is a satisfactory improvement observable; but there is, of course, a limit to which expenditure may be carried to effect this, and, without dogmatizing on a point which lies within the domain of engineering skill, that point has, in the opinion of the Commissioners, been already reached.

192. That in support of this opinion the Commissioners would submit the following reasons:—

(1.) That the depth of the bar must bear some proportion to the width of the entrance, which, being limited to 450ft., does not now, and is not likely to, attract a large class of vessels requiring greater depth.

(2.) That the depth of water at berthage at the wharves must also be regarded as a gauge of the requirements on the bar, and the latter has already sufficient water for any vessel that can at present be berthed.

(3.) That between the navigable channel below the lagoons and the wharves there is a bank on which the depth is less than in either of these, and which has not been removed by the scour of the river alone, unaided as it is at that point by the inflow and outflow of the lagoons.

(4.) That, so far as the output of the present mines is concerned, there does not seem much probability of any large increase; (a) for the working-places have been diminished, and will not be materially increased without months of pumping in Coal-pit Heath, and extensive fault-proving in the Brunner, (b) and because since the amalgamation of interests under the Grey Valley Coal Company the aggregate output of these fell off in 1889 by 10,000 tons, whilst this year the Wallsend Mine has been entirely closed.

(5.) That the public expenditure on that port has more than kept pace with the past extension of the coal industry there.

(6.) That, apart from the depth of either river or bar, the port, from its position, is practically closed on a number of days in the year from stress of weather outside or floods inside, as shown by a table in the appendix; from