

TABLE D.—LIST OF EXHIBITS—*continued*.

Exhibit No.	Exhibit No.
129. History of Napier Harbour legislation (put in by Mr. Gray).	147-162. General questions submitted to and answered by Board's Secretary.
130. List of towage fees in New Zealand.	163. Proposed subdivision of town lots (Borough Council).
131. Letter from Mr. Clapcott to Commission.	164. Cost of new wharf, Outer and Inner Harbour.
132. Hay and Rochfort's file <i>re</i> Awatoto water-levels.	165. Letter, Harbour Board Secretary to Minister of Marine, 26/8/24.
133. Return showing levels and flood-levels, Awatoto Block.	166. Copy resolution, Harbour Board, 26/9/24.
134/135. Graphs showing variations in areas of contours of shingle-bar.	167. Correspondence between Harbour Board Engineer and Engineer-in-Chief, P.W.D.
136. Cross-sections showing losses and gains, Petane Beach (sixteen sheets in all).	168. Plan M.D. 5652.
137. Map of rivers, Board district.	169. Plan M.D. 5679 and 5847.
138. Letter, Harbour Board to Minister. 17/9/26.	170. History of suffrage provisions, Napier Harbour Board.
139. Report <i>re</i> "Canadian Challenger."	171. Return showing size of B and F sheds at Inner Harbour.
140. Report <i>re</i> complaints of delay, certain ships.	172. Return of annual expenditure on Inner Harbour, 1910 to 1927.
141. Various bills of lading.	173. Return of number of men on mould-work.
142. Return showing discharge of five vessels.	174. Reports on breakwater construction.
143. Return comparative working of gaugs, Napier and Lyttelton.	175. Return showing cost per lineal foot of breakwater.
144. Return showing population, rates, and representatives.	176. Dredgemaster's report on "Whakariri" dredging in 1911.
145. Estimated cost making 30-ton block, concrete (Morse).	177. Schedule of charges, Wellington Harbour Board.
146. Estimated cost of 30-ton concrete blocks (Brooks).	

TABLE E.—LIST OF PRINTED REPORTS STUDIED BY THE COMMISSION AND NOW COMPRISED IN COMMISSION'S EXHIBIT No. 1.

	Date of Report.
1. Report on Napier Harbour, by John McGregor	1875
2. Report on Napier Harbour, by C. H. Weber, Engineer to Harbour Board	1879
3. Report on Napier Harbour, by Sir John Coode, C.E.	1880
4. Report (competitor and prize-winner) by W. W. Culcheth, C.E., F.M.S.	1883
5. Report on Breakwater Harbour, by John Goodall, M.Inst.C.E.	1884
6. Report on Mr. Goodall's breakwater scheme, by Messrs. Napier Bell and Scott	1884
7. Reply to Napier Bell and Scott's criticism, by John Goodall, M.Inst.C.E.	1884
8. Report and recommendation by Nautical Commissioners	1892
9. Memorandum upon Report No. 8 by J. T. Carr, Engineer to Napier Harbour Board	1892
10. Report on damage to breakwater, and completion of harbour, by C. Napier Bell, M.Inst.C.E., and J. P. Maxwell, M.Inst.C.E.	1894
11. Report on Inner Harbour dredging problem, by C. Napier Bell, M.Inst.C.E.	1899
12. Reply by C. Napier Bell to criticisms of his report No. 11 above	1900
13. Report on dredging and encroaching silt, Inner Harbour, by C. Napier Bell, M.Inst.C.E.	1900
14. Report on harbour accommodation at Napier, by F. W. Marchant, M.Inst.C.E.	1906
15. "The Napier Harbour Question," by George Nelson, M.I.Mech.E. Undated, but it collects and incorporates various documents dated 1906 to 1910, and some dated by months only	
16. Report on Napier Harbour for vessels of deep draught, by Messrs. J. P. Maxwell, M.Inst.C.E., Cyrus J. A. Williams, M.Inst.C.E., M.Am.Soc.C.E., and J. Blair Mason, C.E.	1909
17. Transcript of shorthand notes of conference between William Ferguson, M.Inst.C.E., and the Napier Harbour Board members, 19th July	1911
18. Reports, eight in number, from 15th January, 1912, to 7th August, 1913, by Mr. C. D. Kennedy, C.E., regarding the experimental patch dredged by the "Whakariri" in 1911-12	1912
19. Report on proposed Inner and Outer Harbours at Napier, by E. A. Cullen, M.Inst.C.E., and T. W. Keele, M.Inst.C.E.	1912
20. Correspondence by letter and cablegram between Harbour Board and Messrs. Cullen and Keele, arising out of Report No. 19	1912
21. Report by Mr. F. W. Furkert, M.Inst.C.E., A.M.I.M.E., on the proposed Inner and Breakwater Harbours	1924
22. Report by Messrs. Cullen and Keele (Ms.Inst.C.E.) on Inner and Breakwater Harbours at Napier	1925

TABLE F.—MR. A. C. MACKENZIE'S REPORT ON DREDGING.

As far as the Inner Harbour is concerned, the dredging of the outer approach channel is the crux of the situation. The channel designed by Cullen and Keele (see Exhibit 21, page 5) is to have a bottom width of 600 ft. and to give a depth of 35 ft. at low water. The Napier Harbour Board's Plan A (Commission's Exhibit 3), issued in 1919, shows this depth as 34 ft.

Taking points along the centre-line, the depth of dredging required and the length of channel are as follows:—

Distance from End of Eastern Mole.	Depth to obtain 34 ft.	Depth to obtain 35 ft.	Distance from End of Eastern Mole.	Depth to obtain 34 ft.	Depth to obtain 35 ft.
Ft.	Ft. in.	Ft. in.	Ft.	Ft. in.	Ft. in.
0	16 0	17 0	2,970	3 3	4 3
165	17 0	18 0	3,300	11 0	12 0
330	15 0	17 0	3,630	14 6	15 6
660	10 6	11 6	3,960	12 0	13 0
990	9 0	10 0	4,290	10 0	11 0
1,320	6 0	7 0	4,620	6 6	7 6
1,650	4 9	5 9	4,950	5 3	6 3
1,980	3 0	4 0	5,280	2 6	3 6
2,310	2 3	4 3	5,610	0 6	1 6
2,640	2 3	4 3	390	Nil.	Nil.

Spit.

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