

1889.  
NEW ZEALAND.

# MANAGEMENT OF WEST COAST COAL-HARBOURS

(CORRESPONDENCE RELATIVE TO).

*Return to an Order of the House of Representatives dated 26th June, 1889.*

*Ordered, "That all correspondence relative to the administration and management of the West Coast coal-harbours, from the time when Government resumed control to date, be laid before this House, together with returns of expenditure in detail, showing the cost of the works undertaken, the amount of work completed, and results obtained in each case; also the cost per ton of stone deposited upon the breakwaters, including all charges of management, interest, &c."—(Mr. O'CONNOR.)*

No. 1.

The ASSISTANT ENGINEER-IN-CHIEF to the CHAIRMAN, Greymouth Harbour Board.

*Greymouth Harbour Works.*

SIR,—

Greymouth, 7th April, 1888.

Referring to the action that has been taken in connection with the Harbour Board, I have the honour to submit the following memoranda of what is required in carrying on the business of the Board until more permanent arrangements are made:—

As already intimated, the new Board will only be asked to attend to such matters as are by law required to be done by a Board; the general conduct of the works and other business will be undertaken by the various Government departments immediately concerned.

With reference to the funds in the hands of the Board, these you can apply as far as they will go in payment of current expenditure, and after they are exhausted payments will be made by Treasury cheques, or through your Imprest Account, as in the case of Government expenditure. As I find that the Board's contracts require payments to be made fortnightly, and as the practice has been to pay within a day or two of the certificate being given, I have telegraphed to Wellington for the funds necessary to meet this month's payments.

As the Government is curtailing expenditure in every direction, it is necessary to reduce the staff on the harbour-works to the lowest possible limit. Will the Board therefore kindly intimate to the Engineer and Secretary that their services will not be required after the expiration of the three months' notice required under their agreements; the notice to be given as from the 1st May. In dispensing with the Engineer and Secretary, their convenience should receive every possible consideration, and, if they wish it, they can be relieved from duty so soon as you complete the arrangements for taking over their work. You will also, in giving those officers notice, kindly say that the Government wishes to express its appreciation of their services, and regret at the necessity which has arisen for dispensing with them.

With reference to the other employés of the Board, some saving can, I have no doubt, be made by combining the offices of overseer and weigh-clerk; and the caretaker of dredge and barges, and mechanical engineer, are to be dispensed with altogether. The Harbourmaster and his subordinates can see to the custody of the dredges and barges, and the engineer of the tug will do any inspection of machinery that is required.

So soon as it can conveniently be arranged, the staging at the south breakwater is to be done by petty contract instead of day-labour. This will enable you to dispense with the services of most of the carpenters.

As you are aware, Government has lately reduced the wages of overseers, gangers, artisans, and labourers. The same rule will apply to the Harbour Board's employés whose services are retained. Any overseers and other employés who have been appointed formally by the late Board will, of course, require to be dealt with by resolution of the new Board, but the other changes can be effected by yourself as District Engineer.

The master of the tug is to take his instructions from the Harbourmaster, and the towage-fees will be collected by the Railway Department, along with the wharf-dues.

Correct inventories and lists are to be prepared of all plant, documents, and other property taken over from the Board and included in the store returns.

I have, &c.,

F. W. Martin, Esq.,

W. N. BLAIR.

Chairman, Greymouth Harbour Board, and Government District Engineer.

## No. 2.

The ASSISTANT ENGINEER-IN-CHIEF to the CHAIRMAN, Greymouth Harbour Board.

Westport, 21st April, 1888.

*Re Works and Staff at Greymouth.*

(Memorandum.)

REFERRING to arrangements already made, and our conversation on the subject, will you kindly arrange further as follows: Mr. Allen, your clerk, is to be appointed Secretary to the Board, at an addition to his present salary of £40; the arrangement being subject to a month's notice on either side, as in the case of temporary Government appointments.

F. W. Martin, Esq., C.E.

W. N. BLAIR.

## No. 3.

The ASSISTANT ENGINEER-IN-CHIEF to the CHAIRMAN, Westport Harbour Board.

*Westport Harbour Works.*

SIR,—

Westport, 23rd April, 1888.

Referring to the action that has been taken by the Government in connection with the Harbour Board, I have the honour to submit the following memoranda of what is required in carrying on the business of the Board until more permanent arrangements are made:—

As already intimated, the new Board will only be asked to attend to such matters as are by law required to be done by a Board; the general conduct of the works and other business will be undertaken by the various Government departments immediately concerned.

With reference to funds, the Government will on your requisition supply such funds as are from time to time required for authorised works; and payments are to be made in such manner as will be directed by the Treasury and Public Works Department. The books of the Board are to be kept as at present, the accounts being still subject to audit as hitherto.

The tenders just received for the quarrying of stones for the breakwater are not to be accepted, but a fresh contract is to be prepared, to include quarrying, hauling, and depositing. This will do away entirely with day-work, and all the foremen and other officials connected therewith will of necessity be discharged. Any of these officials who under their engagements require notice are to be at once informed that their services will not be required after the works are handed over to a contractor. Until so handed over the works are to be carried out by day-labour as at present, special attention being directed towards getting the quarries into the best working-order possible. As it may be necessary, in putting a new face on the quarries, to take out a greater proportion of small stones, you are at once to begin the eastern wall, where this class of material is most required.

You are also authorised to arrange for the building of the eight or ten stone-wagons still required. They can be built as an extra on the present contract.

As the Government is reducing salaries and wages all over the colony, and as the wages paid on the harbour-works are higher than is given in other places for similar services, intimation is to be given at next pay-day that foremen who are now receiving 13s. 4d. a day will in future only receive 12s., and that all other employes who are now receiving 12s. and under will be subject to an all-round reduction of at least 1s. per day. The present system of paying workmen all alike is to be discontinued. Each man is only to be paid what he is worth, the above reduced scale being the maximum for first-class workmen, such as a contractor would select. In order to carry out this system readily, it may be desirable to divide the ordinary workmen in the quarries into two classes—quarrymen and labourers; the former to receive 9s., and the latter 8s. per day. Surface-men on the railway should be paid wet and dry.

With reference to the administrative staff, as the Government is curtailing expenditure in every direction, it is necessary to reduce the Board's staff to the lowest possible limit, and amalgamate the work with that of the Public Works Department. Will the Board, therefore, kindly give formal intimation to the Secretary and Assistant Engineer that their services will not be required in their present capacities after the three months' notice required under their agreements—the notice to be given as from the 1st May. You are, however, authorised to re-employ Mr. Greenland as a clerk in the Public Works Department and Secretary to the Board at a salary of £250 a year, the engagement being terminable in the usual way—a month's notice on either side. Mr. Austin is for the present to be employed on the survey of the Mokihinui Railway. If the work is not finished within the three months over which his notice extends, you will keep him on under a monthly engagement, at his present rate of salary, till the survey is done, after which you will be instructed as to further disposing of him. In intimating these changes to Messrs. Greenland and Austin, kindly say that the Government wishes to express its appreciation of their services, and regrets the necessity which has arisen for reducing their status.

Under you, Mr. Wilson will have general charge of the harbour-works and all the business connected therewith. You can employ Mr. John Barrowman at once, and give him charge of the out-door work after the contract is let. He is to act as Inspector, with Mr. J. G. Balfour to assist him. Mr. Barrowman is to be paid at the rate of £4 per week, and Mr. Balfour at the rate of £3 10s.

In addition to the above, you will require one or two weigh-clerks, who will also do the store-keeping. As the greater portion of the plant and stores is to be handed over to the contractor, the storekeeping work will be very much lessened; and, as the working of the traffic on the railway will also be handed over, the services of the Stationmaster can be dispensed with altogether.

Correct inventories and lists are to be prepared of all plant, documents, and other property taken over from the Board and included in the stores returns, under a distinct heading. All con-

sumable stores, small plant, and hand-tools that can be utilised on the works are to be handed over to the contractor, a list of them being attached to the specification. The present dangerous practice of carrying passengers by the stone-trains is to be at once discontinued. The Harbour Board office is to be taken over and used by the Public Works Department.

In conclusion, I beg to impress on you the necessity for strict economy in administering the affairs of the Harbour Board; at the same time every effort is to be made to carry out the works expeditiously.

F. W. Martin, Esq., C.E.,

Chairman, Westport Harbour Board, and Government District Engineer.

I have, &c.,

W. N. BLAIR.

#### No. 4.

The CHIEF POSTMASTER, Westport, to the ASSISTANT-SECRETARY, Marine Department.

SIR,—

Chief Post Office, Westport, 21st February, 1889.

With reference to your letter, M. 88/1378, of the 12th June, 1888, I now beg to tender my resignation as a member of the Westport Harbour Board. I regret having to take this step, but the business is conducted in such a peculiar manner that I cannot with honour to myself remain a member of the Board.

I have, &c.,

R. TAIT, Chief Postmaster.

The Assistant Secretary, Marine Department, Wellington.

#### No. 5.

The ASSISTANT SECRETARY, Marine Department, to the CHIEF POSTMASTER, Westport.

SIR,—

Marine Department, Wellington, 1st March, 1889.

I have the honour to acknowledge the receipt of your letter of the 21st ultimo, in which you tender your resignation as a member of the Westport Harbour Board; and, in reply, I have been directed by the Minister having charge of this department to point out that section 38 of "The Harbours Act, 1878," requires that a member resigning his seat should send his resignation to the Chairman of the Board.

I have, &c.,

LEWIS H. B. WILSON,

Assistant Secretary.

Robert Tait, Chief Postmaster, Westport.

## GREYMOUTH HARBOUR WORKS.

RETURN of EXPENDITURE in Detail on Works, showing Work completed, &c. (as required by Order of the House of Representatives), for Period from 1st April, 1888, to 30th June, 1889.

Items.	Amounts.	Totals.	Length of Breakwater or Training-wall constructed during Period.	Number of Tons of Stone deposited during Period.	Management Charges, distributed over items in proportion to Amount expended.	Cost of Cranes, Locomotives, Railway-lines, and other Plant in Use on Works (approximate).	Interest and Depreciation in Plant in Use on Works (Ten per Cent. for both).	Gross Interest and Sinking Fund paid on Loans during Period, distributed over items.	Cost per Ton of Stone, including Management, Interest, and Sinking Fund, on Two Bases.	
									1st, If Interest, &c., taken on Plant in Use only.	2nd, If Interest, &c., on whole Amount borrowed is taken.
South Breakwater—	£ s. d.	£ s. d.	Feet.	Tons.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	s. d.	s. d.
Contract No. 19 ..	6,333 16 6	..	..	..	..	..	..	..	..	..
Contract No. 25 ..	1,167 19 6	..	..	..	..	..	..	..	..	..
Quarry and apron ..	13 9 0	..	..	..	..	..	..	..	..	..
Staging ..	1,285 19 0	8,801 4 0	200	44,433	311 6 10	5,000 0 0	500 0 0	2,583 11 0	4 4	5 3
North Breakwater, Contract No. 4 ..	..	6,934 5 2	170	27,482	246 0 1	1,400 0 0	140 0 0	2,041 8 0	5 4	6 9
Coal Creek Training-bank—	..	..	..	..	..	..	..	..	..	..
Contract No. 4 ..	3,359 12 0	..	..	..	..	..	..	..	..	..
Other items chargeable ..	309 11 10	..	..	..	..	..	..	..	..	..
Middle Training-bank, Contract No. 4 ..	..	3,669 3 10	528	23,753	129 15 11	1,200 0 0	120 0 0	1,077 2 0	3 4	4 1
Lower Training-bank, Contract No. 4 ..	..	1,169 0 0	610	8,113	41 7 0	400 0 0	40 0 0	343 3 0	3 1	3 10
Management (engineering)—	..	2,588 10 0	400	18,613	91 11 4	1,000 0 0	100 0 0	759 17 0	3 0	3 9
Salaries and wages, including proportion of Secretary's salary ..	945 13 0	..	..	..	..	..	..	..	..	..
Printing, advertising, &c., in connection with works ..	60 2 10	..	..	..	..	..	..	..	..	..
Incidental (proportion of) ..	46 6 2	1,052 2 0	..	..	..	..	..	..	..	..
Plant, including rails and railway-lines	..	1,406 0 1	..	..	49 14 8	..	..	..	..	..
Additions to the Brunner Railway—	..	..	..	..	..	..	..	..	..	..
Paid out of revenue—	..	..	..	..	..	..	..	..	..	..
Sidings ..	369 2 2	..	..	..	13 1 1	..	..	1,456 19 0	..	..
Flood-wall ..	1,227 4 4	..	..	..	43 8 3	..	..	..	..	..
Rolling-stock ..	5,642 17 6	..	..	..	*	..	..	..	..	..
Paid out of loan—	..	..	..	..	..	..	..	..	..	..
Wharf-extension ..	3,463 9 4	..	..	..	122 10 4	..	..	..	..	..
Cattle-wharf ..	94 2 6	..	..	..	3 6 6	..	..	..	..	..
Total expenditure on works, also totals and averages	..	36,437 0 11	..	122,394	1,052 2 0	9,000 0 0	900 0 0	8,262 0 0†	4 1	5 1

\* Supervised by Working Railways Department.

† This is the true amount of interest and sinking fund for the fifteen months. As payments are only made twice a year, actual amount disbursed is less than this. (See next page.)

[illegible]

1891	599	0	454	2010	3,000	4500
------	-----	---	-----	------	-------	------

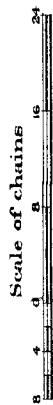
Genl. F. W. Martin  
D.E.

Year	Work done during	1882 and 1883	shewn thus
"	"	From 1.4.86 to 1.4.87	"
"	"	1.4.87 to 1.4.88	"
"	"	1.4.88	"
"	"	1.4.88	"
"	"	30.6.89	"





# GREYMOUTH HARBOR WORKS

## PROGRESS PLAN JULY 1889

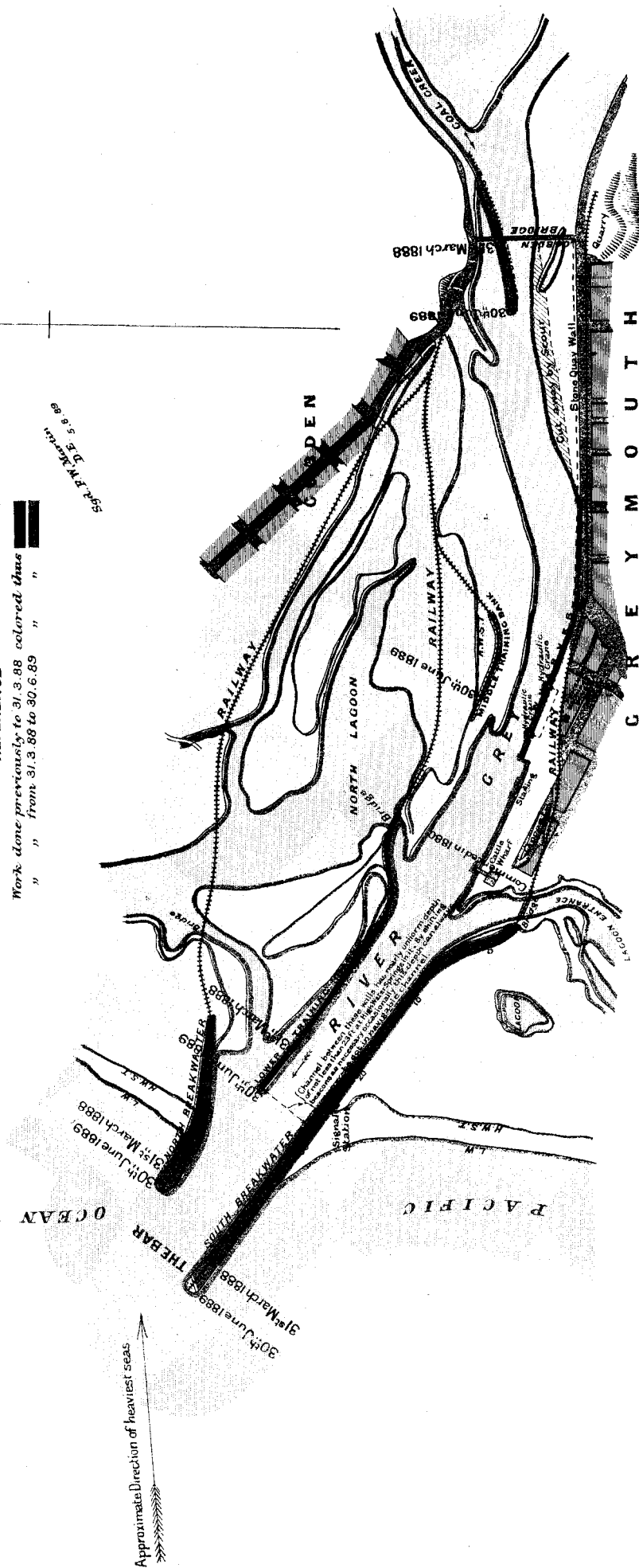


### REFERENCE

Work done previously to 31.3.88 colored thus 

" " from 31.3.88 to 30.6.89 " 

Sgt. P. W. M. 3.5.88







RETURN continued, showing other Expenditure besides Direct Expenditure on Works.

Items.					Amounts.			Totals.		
					£	s.	d.	£	s.	d.
Harbour expenses—										
Salaries, harbour staff ...	...	...	...	...	990	0	0			
Incidental ...	...	...	...	...	104	16	7			
Repairs, buildings ...	...	...	...	...	7	14	6			
Beacon-tramway alterations ...	...	...	...	...	25	13	0			
								1,128	4	1
Tug p.s. "Westland," balance of purchase-money ...	...	...	...	...	...			4,792	10	0
Tug-service ...	...	...	...	...	...			2,217	9	8
Expenses of Board—										
Salaries, Secretary, &c. (portion not charged to works) ...	...	...	...	...	157	0	0			
Rates ...	...	...	...	...	151	4	3			
Printing, advertising, &c. ...	...	...	...	...	68	0	0			
Incidental (including repairs to office), law-expenses, auditor, and all petty office-charges ...	...	...	...	...	195	0	8			
								571	4	11
Interest, &c.—										
Interest ...	...	...	...	...	5,976	18	8			
Sinking fund ...	...	...	...	...	1,000	0	0			
Commission on payment of interest ...	...	...	...	...	32	4	2			
								7,009	2	10
Total ...	...	...	...	...	...			15,718	11	6

*Summary of Expenditure.*

					£	s.	d.
Expenditure on works ...	...	...	...	...	36,437	0	11
Expenditure not on works ...	...	...	...	...	15,718	11	6
Gross expenditure ...	...	...	...	...	£52,155	12	5

MEMORANDUM AS TO RESULTS OF WORKS CONSTRUCTED UP TO 30TH JUNE, 1889.

*Depth on Bar.*—The following table shows the number of days in each year (from the financial year 1880–81 to the financial year 1888–89, inclusive) that the depths of water on the bar were as stated:—

Depth on Bar at High Water.					1880–81.	1881–82.	1882–83.	1883–84.	1884–85.	1885–86.	1886–87.	1887–88.	1888–89.	Three Months ended 30th June, 1889, multiplied by Four for Comparison.
					Days.	Days.	Days.	Days.	Days.	Days.	Days.	Days.	Days.	
Under 10ft. ...	...	...	...	...	165	130	16	27	13	14	...	...	...	...
10ft. and under 12ft. ...	...	...	...	...	140	143	78	85	44	75	5	...	...	...
12ft. " 14ft. ...	...	...	...	...	57	90	230	124	144	91	57	6	1	...
14ft. " 16ft. ...	...	...	...	...	3	2	40	100	124	119	230	108	11	16
16ft. " 18ft. ...	...	...	...	...	...	...	1	30	40	64	65	105	60	36
18ft. " 20ft. ...	...	...	...	...	...	...	...	...	...	2	8	119	146	156
20ft. " 22ft. ...	...	...	...	...	...	...	...	...	...	...	...	28	99	104
22ft. " 24ft. ...	...	...	...	...	...	...	...	...	...	...	...	...	33	52
24ft. and over ...	...	...	...	...	...	...	...	...	...	...	...	...	15	...
Total days in year ...	...	...	...	...	365	365	365	366	365	365	365	366	365	364

An examination of this table will show that, whereas in 1880–82, when the works were only just started, the depth during the bulk of these years was under 12ft., in 1888–89 a nearly equal number of days were over 18ft. in depth. It will also be seen that this improvement has been progressive, and as regular as can be expected in such cases, and that it has continued up to the end of last financial year, which shows a marked improvement over the preceding year.

*Shelter at Entrance.*—Another result of the recent work done is that even the small increase of overlap of the south breakwater over the north one which was made during the last fifteen

months is said to have appreciably improved the facilities for vessels entering the port in heavy weather. This is stated by the Harbourmaster to be his opinion and that of the shipmasters trading here. If the direction of the heaviest seas shown on the annexed tracing is noticed the reason why this overlap is an element of safety will be obvious. A further increase of overlap would no doubt be an important improvement in point of safety, and would reduce stoppages at the port. It may be added, in explanation, that the direction of heaviest seas shown is also the direction of the prevailing wind and seas.

*Training-banks.*—The above observations apply to the effect of the breakwaters upon the bar; but besides these there are training-walls constructed in the river to deepen the channel and wharf-frontage.

Lower: The effect of the lower training-bank has been very marked. The channel between it and the south breakwater, which used to be very uneven, with a considerable range of depth in it, has now become uniform and deep, with soundings in the fairway of 23ft. at high-water, spring-tides.

Middle: The middle training-bank has not yet been acted upon by floods, so that there is no effect due to it so far; but it is expected that it will for its portion of the river do the same work that has been done by the lower wall.

Coal Creek: The effect of the Coal Creek bank has been to deepen the river opposite to it; but the shingle removed has been deposited lower down the river, for want of a wall connecting the Coal Creek and middle training-banks. This connection should be supplied as soon as funds can be made available, so that the scour may be continuous and the shingle be carried out to sea. An extension of the middle training-bank downwards towards the lower training-bank is also needed for same reason.

In general the result of these works must be regarded as satisfactory; but to attain the best results further expenditure is needed in additional training-walls, and also in a breakwater extension on south side to further improve the shelter for vessels entering the harbour.

F. W. MARTIN,  
District Engineer.

---

## WESTPORT HARBOUR WORKS.

RETURN of EXPENDITURE in Detail on Works, showing Work completed, &c. (as required by Order of House of Representatives), for Period from 1st April, 1888 to 30th June, 1889.

Items.	Amounts.	Totals.		Length of Break-water constructed during Period.	Number of Tons of Stone deposited during Period.	Management Charges, distributed over items in proportion to Amount, approximately.		Cost of Cranes, Locomotives, Railway-lines, and other Plant in Use on Works distributed approximately.		Interest and Depreciation on Plant in Use on Works (10 per cent. for both).	Gross Interest and Sinking Fund paid on Loans during Period, over items approximately.		Cost per Ton of Stone, including Management, Interest, and Sinking Fund, on Two Bases.	
													1st, If Interest, &c., taken on Plant in Use only.	2nd, If Interest, &c., on whole borrowed is taken.
Western Breakwater—	£ s. d.	£	s. d.	Feet.	Tons.	£	s. d.	£	s. d.	£	s. d.	£	s. d.	s. d.
Quarrying, loading, hauling, and tipping, less value of material on hand unused ..	20,814 5 11													
Maintenance, railway (less profits) ..	1,716 2 0													
Repairs to plant ..	2,467 14 11													
Cape Foulwind stone contract ..	5,340 17 8	30,339	0 6	801	171,357	741 14 0	56,000 0 0	5,600 0 0	4 4	5,201 0 0	4 4			4 3
Eastern Breakwater—														
Quarrying, loading, hauling, and tipping..	9,207 5 2													
Maintenance, railway (less profits) ..	1,047 14 7													
Repairs to plant ..	1,506 11 4													
Cape Foulwind stone contract ..	4,227 11 0	15,989	2 1	2,996	104,614	390 18 0	61,000 0 0	6,100 0 0	4 4	2,741 0 0	4 4			3 8
Management (engineering)—														
Salaries: Engineer, Inspector, storekeeper, weigh-clerk, draughtsman, and part Secretary ..	1,307 8 10													
Travelling-expenses ..	6 15 0													
Office-expenses, including printing, advertising, auditing, &c. ..	148 3 1													
Law-charges ..	49 13 11	1,512	0 10											
Plant (additions to)—														
Cranes, trucks, &c. ..	4,380 10 5													
Railway ..	3,892 17 5													
Buller Bridge ..	2,923 1 11	11,196	9 9			273 16 0								
Explosives chargeable to work yet to be done		913	17 6			22 5 0								
Ironbark timber on hand not used yet		1,040	6 5			25 8 0								
Additions to Ngakawan Railway—														
Rolling-stock ..	119 0 0					*								
Workshops ..	550 0 0					*								
Pile-facing coal-staiths ..	1,874 16 7					45 16 0								
Wharves ..	2 18 0	2,546	14 7											
Miscellaneous—														
Harbour buildings ..	48 0 0													
Buller relief-channel ..	25 18 5													
Orowaiti protective works ..	144 17 0													
Dredging ..	282 12 2	501	7 7			12 3 10								
Total expenditure on works, also totals and averages	..	64,038	19 3		275,971	1,512 0 10	117,000 0 0	11,700 0	4 4	10,717 16 11†	4 4			4 0½

\* Supervised by Working Railways Department.

† This is the true amount of interest and sinking fund for the fifteen months. As payments are only made twice a year, actual amount disbursed is rather less than this. (See next page.)

RETURN continued, showing other Expenditure besides Direct Expenditure on Works.

Items.	Amounts.	Totals.
Harbour expenses—	£ s. d.	£ s. d.
Salaries, harbour staff, bar-soundings, &c. ... ..	1,489 7 10	
Snagging ... ..	882 13 5	2,372 1 3
Expenses of Board—		
Salary, Secretary (proportion not charged to works) ...	125 7 10	
Office-expenses " "	165 4 3	290 12 1
Interest, &c.—		
On Loan No. 1 ... ..	7,818 3 11	
On Loan No. 2 ... ..	1,264 12 10	
Sinking fund on Loan No. 1 ... ..	1,509 19 4	
Overdraft (on back advances to Board) ... ..	7 3 6	10,599 19 7
Total ... ..	...	13,262 12 11

*Summary of Expenditure.*

Expenditure on works ... ..	£ s. d.
Expenditure not on works ... ..	64,038 19 3
	13,262 12 11
Gross expenditure ... ..	<u>£77,301 12 2</u>

MEMORANDUM AS TO RESULTS OF WORKS CONSTRUCTED UP TO 30TH JUNE, 1889.

*Depth on Bar.*—The following table shows the number of days in each year (from the financial year 1883–84 to the financial year 1888–89, inclusive) that the depths of water on the bar were as stated:—

Depth on Bar at High Water.	Before Works commenced.			Since Works in progress.			
	1883–84.	1884–85.	1885–86.	1886–87.	1887–88.	1888–89.	Three Months ended 30th June, 1889, multiplied by Four for Comparison.
8ft. and under 10ft. ... ..	41	51	29	54	18	...	...
10ft. " 12ft. ... ..	164	219	218	246	169	...	...
12ft. " 14ft. ... ..	140	91	109	65	144	...	...
14ft. " 16ft. ... ..	20	4	9	...	25	14	32
16ft. " 18ft. ... ..	1	...	...	...	4	108	116
18ft. " 20ft. ... ..	...	...	...	...	4	151	112
20ft. " 22ft. ... ..	...	...	...	...	2	88	104
22ft. and over ... ..	...	...	...	...	...	4	...
Total days in year ... ..	366	365	365	365	366	365	364

By this table it will be seen that, whereas during the period before the works commenced to operate the depths on the bar for over 300 days of the year varied from 8ft. to 14ft., during the past fifteen months the depths on more than the same number of days per annum have been from 16ft. to 22ft. This improvement is very considerable, and enables vessels of much larger tonnage to enter the port now than formerly.

Public Works Office, Wellington, 6th September, 1889.

F. W. MARTIN,  
District Engineer.

[Approximate Cost of Paper.—Preparation, £2; printing (1,200 copies), £6 3s. 6d.]

By Authority: GEORGE DIDSBURY, Government Printer, Wellington.—1889.