

1885.  
NEW ZEALAND.

## CONNECTION OF COLLINGWOOD COAL-FIELDS WITH DEEP WATER

(REPORTS RELATIVE TO).

*Return to an Order of the House of Representatives, dated 6th November, 1884.*

*Ordered, "That, with the object of developing the coal-industry of Collingwood, the Government be requested, during the recess, to cause inquiry to be made, by some competent officer, as to the desirability of connecting the coalfields in that district with deep water, and that his report be presented to this House early next session."*—  
(MR. HURSTHOUSE.)

### No. 1.

Dr. HECTOR to the Hon. the MINISTER for PUBLIC WORKS.

Colonial Museum of New Zealand, Wellington, 18th February, 1885.

The Hon. the Minister for Public Works.

I HAVE carefully inquired into all the recent developments of the coal-seams in this district made since the date of my last visit and find they are not of much importance.

The seams are everywhere thin and variable in roof and floor, and expensive to work. The strata are subject to false bedding, so that the seams are very liable to thin out. On the other hand, the superior quality of the coal, both for fuel and gas-making, is beyond doubt, being the best in New Zealand. The extent of the coalfield is very large, covering a tract of about twenty-five miles long and five miles wide. In this area some of the surface-features are very favourable for working the coal-level free, and with a moderate expenditure for access the coal can be delivered by gravitation.

The Collingwood District is very promising for many other minerals and ores, and especially as a centre for iron and cement works, and for the export of marble steatite and other bulky minerals. The only port at present is the mouth of the Aorere River, which has a shallow entrance and liable to damage by floods. The best site for a deep-water wharf is at the point marked on my plan of July, 1872, sent herewith. On a wharf at that point I think an expenditure of about £5,000 would be warranted.

JAMES HECTOR.

### No. 2.

The RESIDENT ENGINEER, Nelson, to the ENGINEER-IN-CHIEF.

(Memorandum.)

Public Works Office, Nelson, 27th February, 1885.

In accordance with instructions received in your letter of the 23rd January, 1885, I have the honour to make the following report:—

On application to the Collingwood Coal Company I received from them their plans and report made on this wharf by Mr. Rees, copies of which I now attach; these show generally the character of the works proposed. I also, in company with Mr. Rees, visited the site of the proposed works, as, although generally well acquainted with the district and coast, I had never been actually on the spot.

I found, in conversation with the pilot, that the depths of water given in Mr. Rees's report are obtained—in the Deepwater Hole, from 9ft. to 10ft. at dead low-water, and on the bar, which never materially alters, 14ft. at high-water springs and 9ft. at low neaps. The spot is virtually protected from all sea either by the land or by sandbanks, and in the worst weather that could be experienced a vessel could safely lie alongside the wharf without either endangering it or herself. From inquiries made of those who have known the locality ever since the district has been opened I find that there is no appreciable change, and in corroboration of this I find that the shell-fish on the beach give indication of being left undisturbed for a great length of time. The Deepwater Hole is situated at the entrance of the Ruataniwha Creek into the sea; this creek is short and sluggish, and does not bring down much, if any, deposit. Although intimately acquainted with Golden Bay I do not know of any place which offers greater facilities at anything like the same cost.

Mr. Rees's estimate of £3,454 is, however, in my opinion, rather a low one, and, although I do not say that a structure cannot be put up for the sum mentioned, I think that it would be advisable

to spend at least, say, £1,000 more on the work, my estimate being £4,238, or, with contingencies, say, £5,000. The work proposed is of as cheap a character compatible with stability as can be erected, except the coal-bunkers, which are of a thoroughly permanent character. In the viaduct and approach round timbers are to be used as piles, mixed birch, totara, cedar, and yellow pine, and rimu and matai for superstructure, which may be either sawn or squared, the piers to be driven at 12ft. centres. The estimate is, to a certain extent approximate, as there were no finished plans for either the viaduct or approach. The structure proposed will last probably eight to ten years, by which time the coalfield will be thoroughly proved, and the company should be able to renew it if it is required.

Between the plans and the report there will be found some discrepancies, first as regards the length of bunkers, which in plan are shown 175ft., while report allows 112ft., the height as shown is also different being in excess of the drawing. Allowance for these discrepancies is made in the estimate.

The Engineer-in-Chief, Wellington.

J. GEO. BLACKETT,

Resident Engineer.

#### No. 4.

Mr. W. WILLIAMS to the SECRETARY, Marine Department.

SIR,—

Collingwood, 29th May, 1880.

I have carefully taken soundings as you requested me. I cannot find 20ft. of water at low-water spring tides on either side of the Parapara, in less than about 800 yards from high-water mark ordinary tides, until I come to the point at Tukurua (see pencil-mark on plan). At that spot it is 518 yards or thereabouts from high-water-mark ordinary tides to 20ft. of water, low-water spring-tides.

I have also sounded off Tomatea, and the only place that 20ft. of water can be obtained in any distance less than half a mile from high-water mark ordinary tides to 20ft. water spring-tides is opposite sections 9 and 10 (see pencil-mark on plan). At that spot the distance is 820 yards or thereabouts from high-water mark ordinary tides to 20ft. of water low-water spring-tides.

I have, &c.,

The Secretary Marine Department, Wellington.

W. WILLIAMS.

P.S.—As Tomatea is not marked on plan I have taken the liberty of writing in pencil.—W. W.

The RESIDENT ENGINEER, Nelson, to the ENGINEER-IN-CHIEF.

(In re *Deep-water Wharf, Collingwood, and Connection of same with Coalfield.*)

(Memorandum.)

Public Works Office, Nelson, 19th June, 1885.

IN accordance with your instructions, I have the honour to report as follows on the practicability, &c., of a deep-water wharf, as indicated on tracing from Geological Department, by Dr. Hector.

On examining the line of soundings marked A, which are taken on line of proposed wharf, as indicated by Dr. Hector, it will be seen that it is only at a distance of about 58 chains from high-water mark that 18ft. of water low-water springs can be obtained, and that in about the centre of line a sandbank with only 4ft. water at low-water springs is crossed. In the second line of soundings (B) this bank is again crossed, but the depth on it has increased to 8ft. at low-water springs. On the lines of soundings C and D there are no traces of any bank.

I have therefore chosen as the wharf site a line about midway between the lines B and D. Up to the second line of soundings (B) I am of opinion that the sand is shifting, but, beyond that, it shifts very slowly, if at all. North of the line of soundings marked D the beach between high- and low-water rapidly widens, and I was informed, as it might be expected, that the sandbank increases in width up to the mouth of Pakawau Inlet. No soundings were taken south of the line of soundings marked A. The beach shoals very slowly, and precludes any idea of a deep-water wharf being built anywhere between that point and Collingwood. The length of wharf required to get a depth of 18ft. at end, at low-water springs, is 2,440ft. from high-water mark; this would give an available length of wharf, between the depths of 15ft. and 18ft., of about 350ft. The width of this end should be sufficient to allow a double line of rails and siding for empties. I have allowed 50ft. A length of about 300ft. in centre of wharf should be constructed of same width, to allow empty and full trucks to pass. The rest of the wharf (about 1,790ft.) should be not less than 15ft. wide, to give sufficient stability to the structure, which, owing to the great rise of tide, 14ft. at springs, is much silted up. The floor of the wharf will be about 6ft. above high-water springs.

The prevailing wind is south-west, which generally at this point blows directly off the land, and cannot make any sea. I was at the site during a very bad south-wester, but there was no sea which would cause vessels to leave the wharf. The worst sea is easterly, and during this vessels could not lie alongside the wharf, as the sea has a very long fetch, and will break heavily on beach. The sea would, however, run parallel to wharf itself, and would not, I think, endanger the structure. The bottom, so far as low-water level, is sandy, and this character is, I think, preserved out as far as end of wharf. The wharf would be situated 4 miles 70 chains from nearest point of Collingwood Coal Tramway, about seven and half miles from the foot of incline in Kerr and Russell's mine (this however is not yet worked), and about three miles from a new lease (which is well spoken of) taken up on north of Pakawau Inlet (also at present unworked). It can, therefore, hardly be considered central.

The cost of wharf I estimate as follows: 1,790ft., at £10 per lineal foot, £17,900; 600ft., at £30 per lineal foot, £18,000: total for wharf, £35,900.

The connection between the present tramway of Collingwood Coal-mine and Wharf would be approximately over 4 miles 70 chains, say five miles, of comparatively easy construction, and over level ground, with no large bridges. It would cost about £1,600 a mile, or for the five miles £8,000. The line proposed would be a light line similar to the Takaka Tramway, and would be worked by locomotives.

The total cost therefore to connect the Collingwood Coal-mine (the only one at present worked) with deep-water wharf, and the erection of wharf, would be approximately: Wharf, 2,440ft. long, £35,900; tramway, five miles, £8,000: total, £43,900. To connect with Kerr and Russell's lease a further expenditure of at least £4,000 to £5,000 would be necessitated, and to connect with end of proposed tramway from the new lease north of Pakawau about £2,500, or an additional expenditure of at least £7,500, making a grand total of £51,400.\*

The estimate for wharf is based on supposition that it will be possible to drive piles, but without borings being taken it is impossible to say definitely that piles can be driven, though to all appearances the ground is favourable. This wharf has been designed so that the loading of vessels can be accomplished by steam cranes fixed on the cast-iron cylinders. The plans which accompany this report show generally what is intended, but do not give any details. The cost of wharf might be reduced by about one-third if 10ft. of water at low-water springs were considered sufficient.

An alternative scheme, which could be carried out at a comparatively small cost, and which could be used by the Collingwood Coal-mine and Kerr and Russell's lease, would be the construction of a wharf from present tramway to Deepwater Hole in the Ruataniwha Inlet. On this I reported on the 27th February last (copy of report attached). It would be available at all times at high water for vessels drawing up to 8ft., and at spring-tides for vessels drawing up to 11ft. or 12ft. The cost (see report) of wharf would be £4,238, plus £423, being 10 per cent. contingencies, which appears to have been omitted from the estimate, or, say, £5,000.

The following enclosures are attached to report: Plans—Sheet No. 1, chart of Tasman and Golden Bay, showing position of proposed deep-water wharf for Collingwood Coalfield. Sheet No. 2, showing positions of coal leased and proposed wharves and tramway. Sheet No. 3, plan and section and cross-sections proposed, Deep-water wharf for Collingwood Coalfield. Copy of report on soundings for deep-water wharf north and south of Collingwood, by William Williams, Harbour Lightkeeper, dated the 29th May, 1880. Copy of report on wharf in Ruataniwha Inlet, by J. G. Blackett, dated the 27th February, 1885.

J. GEO. BLACKETT,  
Resident Engineer.

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\* NOTE BY ENGINEER-IN-CHIEF.—The estimate for the tramway should be increased, and this increase added to amount necessary to provide locomotive engines and wagons, &c., will raise the estimate to about £70,000 or £75,000.

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The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry should be supported by a valid receipt or invoice. This ensures transparency and allows for easy verification of the data.

In the second section, the author details the various methods used to collect and analyze the data. This includes both manual and automated processes. The goal is to ensure that the information is both reliable and up-to-date.

The third part of the document focuses on the results of the analysis. It shows that there has been a significant increase in sales over the period covered. This is attributed to several factors, including improved marketing strategies and better customer service.

Finally, the document concludes with a series of recommendations for future actions. These include continuing to invest in marketing, maintaining high standards of customer service, and regularly reviewing financial performance.

The following table provides a summary of the key findings from the analysis. It shows the total revenue, the number of transactions, and the average value per transaction.

Category	Value
Total Revenue	\$1,234,567
Number of Transactions	12,345
Average Value per Transaction	\$100.00

The data indicates that the company is performing well overall. However, there are still areas where improvement is needed. The author suggests focusing on these areas to further increase profitability.

The document also includes a detailed breakdown of the costs associated with the operations. This helps to identify areas where costs can be reduced without affecting the quality of the products or services.

In addition, the author provides a forecast for the next quarter. This is based on current trends and the planned marketing activities. The forecast shows a continued upward trend in sales, which is encouraging.

Overall, the document provides a comprehensive overview of the company's financial and operational performance. It offers valuable insights into the strengths and weaknesses of the business, and provides a clear path forward for future success.