

*Name and Address of Applicants.*—Messrs. John Brogden & Sons, (care of Mr. George H. Tribe, Ross).

*Style under which it is intended to conduct the Business of this Race.*—The Mikonui Water Company.

*Number of Heads of Water.*—Forty heads from source, together with all drainage and streams on the line subject to existing rights.

*Length of Race.*—Twenty-one miles.

*Capital proposed to be expended.*—Forty thousand pounds (£40,000).

*Term for which License is required.*—Fifty years.

*Precise Locality.*—Commencing at the Mikonui River, above the second gorge, and cut along the Mikonui slopes of the Greenland Range to crest of range at Sailors' Gully.

*Further Conditions.*—We require a space of ten chains wide, being five chains on each side of the race, conveyed to us for the term of the lease, for the protection of the race and supply of timber, and a special claim for mining purposes, five chains wide, the whole length of the race, along the lower side of the protected belt.

Ross, 9th April, 1872.

D.

STR,— District Engineer's Office, Hokitika, 1st August, 1872.

I have the honor to forward herewith, by "Wallace," the plans and specifications of Mikonui Water Race.

With a few exceptions, which are figured on section, the pegs have been driven to regular gradients, so that the size of race being finally determined on, the depth of cutting suitable can be readily stated for each gradient. Along the fifth, fourth, and part of third divisions, where a 10-head race was contemplated, the depth is already figured for that quantity, and the sizes and heights of boxing and fluming entered in tabulations.

At the commencement of tunnels of considerable extent, the formation level has been dropped 2 feet for the purpose of taking the whole height of tunnel into conduit, and so saving in the width of the drive.

The total length of race line as now surveyed, is 20 miles and 12 chains, and at the prices given in original estimate, a race to carry 40 heads throughout would cost £37,500. For a race to carry 10 heads (commencing far enough back to secure the quantity, and carried to termination of recent survey, viz., 10 miles 44 chains), the cost on same basis would be £11,100; but I think it possible that tenders, if called for here now, would be found 20 per cent. over both of these estimates, as the rate of wages, when they were made, was 10s. per day, while now it is 12s.

The chief advantages which this race possesses are: First,—The large extent of ground which it commands, making it almost a certainty that the water will be disposed of somewhere, even if not saleable at the places on which reliance is at present placed. Second,—The permanent character of the supply from which it takes its source; and Third—Its great height over the deep workings on Ross Flat, rendering it available for hydraulic-pumping engines.\*

Its disadvantages are, first—The costliness of the works involved as compared with other races; and second—The difficulty of access to the upper portion of the line, which would prevent its being very expeditiously carried out.

I believe that it must ultimately prove a remunerative undertaking; but it is quite possible that it would be several years in existence before it became so.

As far as it is safe to estimate from the data to hand, the receipts would probably balance the expenditure at the end of the 12th year as follows:—

	£	s.	d.		£	s.	d.
Cost of construction, say ..	45,000	0	0	Sales of water for 1st year ..	1,500	0	0
Interest for 12 years, at 7 per cent.				" " 2nd " ..	3,500	0	0
per annum, on absolute outlay,				" " 3rd " ..	5,000	0	0
say .. .. .	30,000	0	0	" " 9 following years..	95,000	0	0
Maintenance and Superintendence							
for 12 years, say .. ..	30,000	0	0				
Total .. .. .	£105,000	0	0	Total as before ..	£105,000	0	0

I have, &c.,

C. Y. O'CONNOR,

District Engineer.

J. Carruthers, Esq., Engineer-in-Chief.

Copy of Addendum to above, written in Wellington, on Mr. BROGDEN'S copy.

At the end of the 12th year the receipts would amount, as above shown, to £10,550 per annum, or at the rate of about 23 per cent. on the capital originally invested, and, so far as it is possible for any one to estimate them at the present time, they would probably remain at that rate for 20 or 30 years.

The price of water in all the calculations has been taken at £5 per head, which is the lowest that it would be likely at any time to sell for. Were the present prices ruling for water to be obtained, viz., £8 per head, the race might be expected to recoup capital in 7½ years, and would thenceforward pay at the rate of 36 per cent. per annum.

C. Y. O'C.

\* The available height above Ross Flat would be about 450 feet.