

ranga tributaries have their waters highly charged with minerals I have frequently detected by the state alone.

I have, &c.,

C. E. Haughton, Esq., Under Secretary for Gold Fields.

N. P. CARVER,
Engineer and Surveyor.

Mr. J. J. O'NEILL to Mr. C. E. HAUGHTON.

Memorandum upon Mr. Carver's Scheme.

THIS seems to be generally the same plan as that proposed by Mr. Carver, and which appeared in the columns of the *Thames Advertiser* about six months ago: the dimensions of the present proposed reservoir embankment are, however, much smaller. There appears to me to be no necessity for constructing such a large storage reservoir, and the sum stated is far below what the actual cost would be for the construction of race and reservoir. I am of opinion that it would be better to construct the race first, and afterwards a reservoir if required. I cannot see any advantage in this plan over that already proposed for the low level, as the Hihi Creek can be added to the supply of either. It has the disadvantage, however, of being at a lower level.

Auckland, 10th May, 1872.

JOHN JAMES O'NEILL.

Mr. G. A. BEERE to Mr. C. E. HAUGHTON.

SIR,—

Shortland, 3rd May, 1872.

I have the honor to submit, for your consideration, tracing of proposed water supply for the Thames District; also a map of the gold field, as compiled by me at the close of last year. Both tracing and map are on the same scale, so that by placing the tracing upon the face of the map, the positions of the various creeks can be at once visible.

There are two lines or water schemes laid down upon the tracing. The red indicates a 15 head supply, taken at an elevation of 300 feet above the sea; and the yellow indicates a 10 head supply, at 590 feet of elevation.

In particularizing the advantages of the two schemes, the yellow takes the lead, as the elevation compensates for the loss of the 5 heads which would be gained in the 300-foot level; but the distance being so much greater in the high level than in the low, I had considered it advisable to suggest the latter level for your consideration. The cost would be about the same in both cases. The high-level race could be constructed the entire length as far as Tararu Bluff by cutting and fluming, and carried the remainder of the way in pipes; but the low level would probably meet with opposition if carried in a similar manner, owing to its passing over a considerable extent of private property, unless carried along the beach in pipes sunk into the ground. This level would be available for all the batteries at Tararu as far up the creek as the Missouri, and the surplus water carried to Grahamstown for the batteries on the Flat. Without a complete survey of the entire route, it would be next to impossible to estimate the exact cost: at the same time, I am of opinion that £1,000 per mile would be sufficient to carry out the undertaking.

Trusting that the scheme may receive your due consideration, and, in the event of your approval, I shall be happy to render any further particulars, and, if necessary, complete the survey already commenced, at a moderate rate of remuneration,

The Under Secretary for Gold Fields.

I have, &c.,

GEO. A. BEERE.

Mr. J. J. O'NEILL to Mr. C. E. HAUGHTON.

Memorandum upon Mr. Beere's Scheme.

Auckland, 10th May, 1872.

As only a portion of the ground in connection with this plan has been surveyed, and as there are no dimensions given of proposed reservoir, I can form no correct idea of the scheme. It is not stated whether or not the proposed supply would be the average yearly supply.

JOHN JAS. O'NEILL.

NOTE.—The reservoir as shown on plan would, on account of the nature of the ground, be both costly and difficult to construct.

10th May, 1872.

J. J. O'N.

MEMORANDUM by Mr. J. GIBBONS.

Estimate of Working Expenses of a 30 horse-power Steam Engine per Week.

	£	s.	d.
Cost of Coal per h.p. per week, at 20s. per h.p.	30	0	0
One Engineer, £4; Engine driver, £2 10s.	6	10	0
Oil, waste, repairs, &c.	3	10	0
	£40	0	0