

No. 5.

Mr. C. E. HAUGHTON to Mr. MILLETT.

SIR,—

Grahamstown, 3rd May, 1872.

As I believe you have a general knowledge of the proposed schemes for water supply to the Hauraki Gold Field, respectively designated the "High" and "Low" levels, I should be much obliged if you could afford me information of the approximate quantity of water which would, in your opinion, be available for each in ordinary seasons, and what quantity you may consider was actually available during the last summer.

I have, &c.,

The Provincial Engineer.

C. E. HAUGHTON,
Under Secretary for Gold Fields.

Mr. R. MILLETT to Mr. C. E. HAUGHTON.

SIR,—

Engineer's Office, Thames, 6th May, 1872.

I have the honor to acknowledge receipt of your letter of the 3rd inst., and in reply beg to state, as regards the "High Level" water scheme, the quantity of water gauged by me at its head during the last summer was 2 cubic feet per second, equal to two regulation sluice heads. The quantity available for the "Low Level," as taken at the head of the proposed race, was found to be 7 heads, or 7 cubic feet per second, and at a point below the head of this scheme, the quantity of water which could be obtained was found to be 29 heads, from which must be deducted the Hihi, a tributary of the main stream, flowing in from its southern watershed. This will leave 24 heads for the low level, and by taking up the Hihi by a flume across the river near the head of the low level, the waters of the Hihi can be diverted, and made available as part of the supply, thus making the low level to commence with 7 heads from the main stream, and 5 from the Hihi, in all 12 heads, in the driest season. The remaining 18 or 20 heads can be obtained from tributaries along the course of the proposed race.

During three-fourths of the year a much larger supply can be obtained from either the low or high level, but I have given you the minimum.

About 20 chains of additional fluming (2 ft. by 1 ft. 6 in.) would be all that is required to connect the Hihi with the low-level scheme.

I have, &c.,

C. E. Haughton, Esq.,
Under Secretary, Public Works Department.R. MILLETT,
District Engineer.

No. 6.

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

Water Supply, Thames Gold Fields.

SIR,—

Auckland, 7th May, 1872.

I have the honor to enclose to you a report by Mr. Daniel Simpson, C.E., in connection with the water supply for the Thames Gold Fields. I intended to have gone over the ground myself, but was prevented on account of having to attend to the Kaipara Extension Railway Survey; I therefore put the matter referred to under the charge of Mr. Simpson, a gentleman of much experience and well acquainted with the country, and who recently accompanied me to the sources of the high and low level supplies on the River Kauwaeranga.

I have, &c.,

The Under Secretary, Gold Fields.

JOHN JAS. O'NEILL.

P.S.—I will forward a copy of the report, as requested by you, to the Engineer-in-Chief.

J. J. O'N.

Enclosure in No. 6.

Mr. D. SIMPSON, C.E., to Mr. J. J. O'NEILL, C.E.

SIR,—

Grahamstown, 8th May, 1872.

In accordance with your instructions, I have examined the country lying between the Moanataiari Water Race and the watershed of the Kauwaeranga, with a view of connecting them.

For a distance of three and a half miles, the course would be along the watershed of the Tararu; at this point a tunnel of about 63 chains would enter the dividing range in a deep gully formed by one of the feeders of the Tararu, and open out on the opposite side in another gully formed by a branch of the Maungarahu, a main tributary of the Kauwaeranga. From the mouth of the tunnel a flume of about 60 chains would reach the stream of the Maungarahu at a sufficient elevation.

From this point the route traverses the ranges on a contour line having the same general direction as the high-level survey of the Kauwaeranga, but at an elevation of about 600 feet above it, and from 1,000 to 1,200 feet more northerly. At this elevation many of the branches of the main tributaries of the Kauwaeranga are lost, as they take their rise at a lower elevation.

The length of the route from its junction with the Maungarahu to the main stream of the Kauwaeranga would be about twenty-three miles, and, including the tunnel and thence to the end of race, four and a half miles, or a total length of about twenty-seven and a half miles. The surface of watershed commanded by this level would be less than one-half commanded by the Kauwaeranga high level, and less than one-third of the low level.

At the time of our survey, which was made immediately after a very heavy fall of rain, the whole of the branches and creeks were full, and it is fortunate for any calculations as to the permanency of these streams, that the late dry season called attention to the greatly diminished supply to be obtained from them in summer.