

1882.
NEW ZEALAND.

PROPOSED WATER SUPPLY ON GOLD FIELDS.

(REPORTS ON)

Presented to both Houses of the General Assembly by Command of His Excellency.

No. 1.

PROPOSED WATER RACES ON MAEREWHENUA GOLD FIELDS.

J. A. McARTHUR, Esq., to the Hon. the MINISTER for MINES, Wellington.

Public Works Department, Head Office, Middle Island,
Dunedin, 5th May, 1882.

SIR,—

In accordance with your instructions, Mr. O'Connor was requested to report on the subject above quoted, and I have now the honor, by direction of the Engineer-in-Charge, M.I., to forward enclosed herewith a copy of Mr O'Connor's report for your information.

The Hon. the Minister for Mines, Wellington.

I have, &c.,
J. A. McARTHUR.

Enclosure in No. 1.

C. Y. O'CONNOR, Esq., to the ENGINEER-IN-CHARGE, Middle Island.

SIR,—

Public Works Office, Dunedin, 1st May, 1882.

In accordance with your instructions that I should report upon the probable cost and prospects of the water races proposed by the Maerewhenua Mining Association for the development of the gold fields near Livingstone, I proceeded to that district on 22nd ult., and took a general reconnaissance survey of it with barometer levels during that and the three following days. In this I was very materially assisted by the chairman and two of the members of the Mining Association, Messrs. Roberts, Frater, and Smith, who kindly accompanied me over the ground, and supplied me with much valuable information which it would otherwise have taken a long time to obtain. The work of locating the races was also very much facilitated by a sketch map obtained from the Survey Department, showing the levels of the principal hills, &c.

From the information supplied to me by the representatives of the Mining Association above alluded to, it would appear that there are two distinct water supplies required; one for the workings on the Livingstone (or south) side of the Maerewhenua, and the other for the workings on north side of same. Considering these separately, I find as follows:—

Water Supply for Livingstone (or south) Side of Maerewhenua.

This is proposed to be attained by a water-race from the south branch of the Maerewhenua river, constructed to carry about ten heads of water, together with reservoirs capable, in the aggregate, of holding that supply for sixteen hours out of the twenty-four. If ten heads were always to be had out of the creek, the effect of this arrangement would, therefore, be to enable a supply of thirty heads of water to be served out to the miners during each working day of eight hours.

Having roughly located what appeared to be the best course for this race upon the ground, as indicated, on plan attached, by a brown line, I find that its length would be about 11 miles, and its cost, including reservoirs, about £5,500. In this estimate there is included the probable cost of a syphon pipe, 17 inches in diameter, to carry the water across the Maerewhenua, at a point about five miles from the source of the race, it being thought better to keep the race for that distance on the opposite side of the stream from Livingstone, in order to save distance and fall by avoiding the long detours necessary to head Stoney Creek and Bushy Creek, and other tributaries of the Maerewhenua on Livingstone side.

I also estimate that the cost of maintenance and management of this undertaking would be about £400 per annum.

The price at present paid for water at Livingstone seems to average about 35s. per head per week of six working days of eight hours each.

Were ten heads of water constantly procurable from the creek, therefore, and were thirty heads always saleable during each working day of eight hours, at 35s. per head per week, the gross revenue of this undertaking would be £2,730 per annum, and the net revenue £2,330 per annum, which latter