

The gold-bearing stone is a sandstone, with veins of carbonate of lime, stilbite, &c., and is very easily crushed.

The works done by the Baker's Hill Claim proprietors have been four drives of the following lengths:—200 feet, 90 feet, 100 feet, 440 feet; and the expenditure, as we were informed by the managers, has been about £700.

Leaving Baker's Hill Claim, we passed a reserve of ten acres; then visited the Morning Star Claim. Here there was a drive of 250 feet in an easterly direction, and the intention of the proprietors is to continue the drive until they cut the gold-bearing band of Baker's Hill Claim.

This company has now a turbine wheel and crushing machinery on the ground, and are preparing to erect a dam, &c.; they expect to have everything ready and in working order within two months. The expenditure has been about £600. Beyond the Morning Star, further up the creek, are the Union Claim and the Try Again Claim. In these claims, however, prospecting has been the only work done.

A small two-stamper hand battery has been erected near the Morning Star Claim, with stampers of about 100 lbs. weight each; and at this machine, we were informed 24 cwt. of stone from the Baker's Hill Claim had been crushed and the yield was 19 dwts.

The area of the various claims are as follows:—

Golden Crown	...	...	...	...	21 acres
Baker's Hill	...	...	...	...	20 "
Land Reserved	..	...	...	...	10 "
Morning Star	...	...	...	...	10 "
Union	...	...	...	...	10 "
Try Again	...	...	...	...	10 "

And the leases are for a period of twenty-one years.

The Baker's Hill drive is close to where the proposed Reservoir for the Wellington water Supply will be situated, and if formed will doubtless flood by several feet the drive.

The conclusions we have arrived at are as follows:—

We believe that, with sufficient machinery, capable of crushing large quantities of stuff, and worked chiefly by water power, Baker's Hill should yield a very profitable return of gold.

We have arrived at these conclusions from the practical tests performed in our presence; but it must be borne in mind that the law of the distribution of precious metals is still unknown, and that gold may only be obtained in spots, pockets, or streaks, and, as is well known to all miners, gold is "tricky."

Still from the practical proofs obtained in our presence, it has been clearly shown that gold exists, and in such quantities as to make it appear reasonable to expect a profitable yield.

Wellington, 15th September, 1871.

J. C. BROWN.
C. O'NEILL.

DR. HECTOR to the CHAIRMAN, Wellington Waterworks Committee.

WHAT I consider thorough prospecting has been hitherto confined, in the neighbourhood of Wellington, to the Baker's Hill and Terawiti districts, in both of which a certain amount of alluvial gold was obtained, and led to a search for reefs.

Gold has been found in varying quantities, the richest sample ever examined containing 3 oz. 5 dwt. per ton, being from the top of Baker's Hill.

Sixty-eight analyses have been made (at the request of prospectors) in the Laboratory of specimens obtained from many parts of the hills surrounding the harbour. Out of these five yielded a weighable quantity of gold, and four more only traces.

The specimens that yielded gold were as follows:—

Wainui-omata—Slate with mundic	...	...	...	Traces.
Terawiti—Brecciated sandstone	...	...	...	Traces.
Decomposed sandstone	...	...	...	Traces.
Cemented rubbly sandstone	...	...	...	4 dwts. 8 grs.
Baker's Hill—Quartzose sandstone with white veins	...	...	...	3 oz. 5 dwts.
Terawiti—Sandstone	...	...	...	1 dwt. 7 grs.
Baker's Hill—Quartzose sandstone	...	...	...	2 oz.
Quartzose sandstone	...	...	...	6 dwts. 12 grs.
Terawiti—Quartzose sandstone	...	...	...	2 dwts. 7 grs.
Baker's Hill—Quartzose sandstone	...	...	...	Traces.

Quartz reefs are common in the ranges, but not well defined, and gold has never been found in any of them.

Gold has not been found in the body of any reef or veinstone.

The rock is at both Terawiti and Baker's Hill the same, and is highly characteristic, so that it can easily be distinguished. It consists of broken fragments of quartzose sandstone traversed by veins of carbonate of lime, a white mineral called stilbite, and thin veins of quartz.

The gold occurs as minute flakes on the sides of the thin veins of quartz, in the same form as what is known as dendritic manganese. When examined under the microscope it is generally in somewhat crystalline flakes; but in the alluvial gold in the same places there are two qualities found, one much purer than the other, which can easily be distinguished by the colour. The lighter coloured contains about 13 per cent. of silver, while the other is much purer.

Masses of brecciated rock, of the same description as at Baker's Hill and Terawiti, occur in other parts of the ranges, generally in the line of strike with the strata, which in this district averages N. 30 E.

Unless a defined reef or lode be struck which has been formed subsequently to the motion of the rocks that has given them the brecciated character, and in this respect similar to the thin veins that