

the whole of the reef between this and the next level—160ft.—is barren. The general character of the whole of the reefs here is that the gold runs in ledges and benches: very seldom is any reef found to have gold uniformly distributed all through it; and, unless uprisings were made at short intervals, or intermediate levels constructed, there may still be payable quartz in this lode above the low level.

North Star Company.—This company's mine is situate at Te Papa Gully, from which they have driven a tunnel into the range for 1,140ft., costing £1,800. This tunnel will give them, at the place where the reef was struck, about 140ft. of backs. The reef is 15in. in width, but, judging from the appearance of the quartz, I should not expect it give a large yield to the load. They have twenty tributors and men employed in their mine.

Auckland Company.—This company's mine is situate on the left side of the Lucky Hit Creek, a tributary of Karaka Creek, which they have only recently taken up. A tunnel is being driven into the hill to cut some of the lines of reef that were worked on the surface in former years; and when only a short distance in they struck a reef which promises to give good returns. The reef is from 2ft. to 3ft. wide, and contains a great abundance of very white crystallized quartz, in some of which I saw gold finely distributed through the stone. As they are only opening out the mine, very little can be said respecting it; but they have about twenty tons of stone lying in the paddock ready to send to the crushing-battery at Grahamstown as soon as a road is constructed. This mine is held by only a few shareholders, and at the time of my visit had eight men employed.

There are about a hundred miners employed about Karaka Creek, some of whom have been steadily at work for many years, and are doing very well. The claims are principally held by private individuals, who have from two to eight men employed in each claim.

OTANUI.

The mines here at the present time are not looking very bright. There were no men at work at the time of my visit, but I was informed that the Oriental and Eureka Companies were still working their mines. I inspected the Oriental Company's workings in company with Mr. Aitken, the County Engineer, when we were going over the subsidized goldfields roads and tracks; and, judging from the manner in which the mine was worked, it would require very rich auriferous quartz to pay for working. The workings in this mine appear to be carried on in such a haphazard manner, without any system, that it would be impossible to make low-grade quartz pay. Great hopes are still entertained for this district, and there is every convenience for getting the quartz crushed at the battery which is erected at the junction of the Otanui and Maungakirikiri Creek, from which there is a good dray-road to the mines. The crushing-battery consists of ten heads of stamps and three berdans, which are driven by one of Climo and Bowden's water-wheels. These wheels are a combination of the tangent and Pelton hurdy-gurdy wheels, and are said to give a high percentage of the power of the water.

WAIHI DISTRICT.

The mining-claims in this district promise to give good returns to shareholders. The district was originally opened by Government aid for prospecting, which resulted in the opening of the Martha Reef, which has been steadily worked for the last four years by the Martha Company. During the whole time that this reef has been at work the quartz has only averaged 4½dwt. of gold per ton, and the value of the gold varies from £2 16s. to £3 5s. per ounce. The gold is of the most value near the surface, and deteriorates in value as it goes down; still, the mine has been conducted in such a systematic manner that this has paid all expenses for working, including the erection, stamping-battery, and berdans. 30,000 tons of quartz have been obtained and crushed, which has to be brought from the mine by a tramway upwards of a mile in length. This shows that the average value of the stone was only 13s. per ton. Yet, this low grade having been made to pay expenses for working speaks for itself as to the judicious management of the mine, which has been under Mr. Moore since shortly after it was opened. The upper levels are now nearly worked out. There is a low level driven for 1,000ft., which is the lowest tunnel that can be driven without sinking a shaft. The reef is about 4ft. wide in the lowest level, but the portion that they have been working on has been very poor of late. This company has a crushing-battery of thirty heads of stampers and six berdans, driven by water-power from the Ohinemuri River.

Union Company.—This company's mine is situate about half a mile south of the Martha Reef, and contains a very large percentage of silver in the stone. The reef varies from 2ft. 6in. to 6ft. thick, and is of a very soft friable nature, requiring scarcely any blasting. The most of it can be taken out with picks. They have driven about 200ft. on the reef, and broken out one stope for 60ft. in length. 350 tons of the quartz which was treated by the ordinary battery-process yielded 1½oz. of gold per ton; but the last parcel that was treated only gave 15dwt. to the ton. Recently a parcel of over 16½ tons was sent to England and sold to a German firm for £43 5s. per ton. The assays taken from this parcel gave 9½oz. gold and 55oz. silver. This was picked out from among 300 tons which was taken out of the upper levels and crushed at the battery.

During the time that the La Monte smelting-furnace was in operation 18 tons was sold, to be treated by this process, which realized £348 10s. The ore from this lode contains both gold and silver, the latter occurring as sulphide of silver, and also telluride of silver was found in specimens sent to the Colonial Laboratory for analysis. The following is a report on the analysis by Dr. Hector, which shows the ore contains 66oz. of gold and 186oz. of silver to the ton. The report also shows that by simply amalgamating it in its natural state very little of the silver can be saved.

*“Results of Analysis of Specimen No. 4,386. (Three small Specimens, for Silver and Gold.)
Locality, Waihi. Received, 25th August, 1886. Reported on, 1st September, 1886.*

“Amorphous and crystalline quartz, containing electrum (alloy of gold and silver) in pale-yellow grains; and also a telluride of silver (probably hessite) in the form of dark-grey streaks of granular