

as Murphy and O'Connor's claim; but so far there does not appear to be any returns from it. While visiting this district a great many miners complained to me about the terms and conditions the Kauri Syndicate Company were exacting from those who wished to prospect and work the ground.

*Kuaotuna.*

Since my former visit to the Kuaotuna Goldfield great changes have taken place. A good-sized township is now erected where the Native whares are, near the mouth of the Kuaotuna Creek. There are two large commodious hotels, which will favourably compare with any hotel in large cities for accommodation. The field is yet but in its infancy, as comparatively little work has been done to develop it. There are numerous auriferous-quartz lodes to be found all over the field, and no doubt many more will yet be discovered, and the gold traced from Coromandel through the Kauri Syndicate's property to Kuaotuna. There is one crushing-battery at work on the field, one in course of erection, and another proposed to be erected.

*Try Fluke Company.*—This is the best claim on the field so far as it has yet been proved; but the lode in the second level is not anything like so rich as it was when first struck on the upper level. Still, there is sufficient gold to pay for working. The lode continues to be a good width, but the quality of the lode-stuff appears to get poorer as it goes down. They have stoped out about 80ft. in length of the lode between the first and second level, where some very rich ore was found, averaging in one crushing about 10oz. of gold per ton; but the lode-stuff at the second level will scarcely average 10dwt. per ton at their crushing-battery. The company is constructing a low level, which is about 20ft. above the level of the dray-road from the sea-beach. They expect to have to drive about 500ft. before they cut the lode. There are in all about fourteen men employed, and the area of ground held is about 11 acres. The amount of quartz crushed and gold obtained by this company from the time their crushing-battery was completed, in June, 1890, to the 31st October last was 1,408 tons, which yielded 3,308½oz. of gold. This is exclusive of 33 tons which was crushed at the Thames, yielding 360oz.; it also does not take into account any gold got out of the tailings. The average value of the gold from this company's mine is £2 13s. per ounce.

The crushing-battery erected by the Try Fluke Company consists of eleven heads of stamps (8cwt. each) and three berdans, the ordinary copper-plated tables and blanket-tables being used. The character of the gold is extremely fine—indeed, it is in such a finely-divided state that it is held in suspension by the water. Notwithstanding this, very coarse gratings are used on the crushing-battery, having about two hundred holes to the square inch. The quantity of gold this company has already lost by imperfect gold-saving appliances is astonishing. The muddy water from the tables holds a large percentage of the precious metal in suspension, which flows into the creek, and is carried away with the stream. This is clearly proved by a gentleman at Kuaotuna, who made a new amalgamating-machine, and wished to try it on the muddy water flowing from the tailings-pits. He showed me a button of gold—probably about 5dwt.—he had obtained from the muddy water. The gold on this field is found in such a finely-divided state amongst the lode-stuff that no system of amalgamation yet in use will save anything like a fair percentage of it. If we take the amount of gold obtained from this company's mine up to the 31st October last as 3,668½oz., representing a value of £9,720, it may safely be asserted that the value of the gold left in the tailings, and that which passes away with the muddy water into the creek must be at least £12,000.

The process for saving the gold from this company's mine should be to crush the lode-stuff to such a fineness as to pass through a sixty-mesh screen, 3,600 holes to the square inch, and afterwards treat it by the Cassell process. There is no goldfield in the colony where ores are found better adapted for treatment, by being finely pulverised and subjected to a solution of cyanide of potassium, than at Kuaotuna, on account of the gold being in such a finely-divided state amongst the quartz.

The ore is conveyed from the mine to the battery by an aerial tramway, constructed in one span of 1,090ft. The rope is of iron wire, about 3½in. in circumference, and there are only two carriers used. The full one goes down as the empty one comes up. The weight of each carrier, or bucket, is about 3cwt., and it holds 7cwt. of quartz. The top support is about 272ft. higher than the bottom, so that this reduces the horizontal span to about 1,060ft. The deflection in the rope is about 44ft. with the loaded carrier; so that, taking the weight of the rope and loaded carrier, the strain produced at each end support is about 8 tons, the breaking-strain given for an iron-wire rope of this dimension being 20 tons. This only gives 2.5 as a factor of safety, which is too little, and an accident may occur any day by the rope breaking.

*Carbine Company.*—This company's claim adjoins the Try Fluke Company's ground. It comprises an area of 5 acres and 20 perches. They were at the time of my visit driving along the lode, which is from 2ft. 6in. to 3ft. thick on the northern end, and 13ft. feet wide at the Try Fluke boundary. The main lode consists of low-grade ore, similar in appearance to that found on the same level in the Try Fluke ground. There are small leaders and veins of quartz going off the main lode which pay to work. Twenty-five tons was crushed at the Thames from these leaders during my visit to the northern fields, which yielded 308oz. of gold. They are making arrangements to get some of the main-lode stuff crushed as soon as the public crushing-battery which is now in course of erection on the flat about three-quarters of a mile above the township is completed. There were seven men employed about this claim.

*Red Mercury Company.*—This company's claim comprises an area of about 14 acres, and is further to the north-east than the Carbine Company's claim, having several auriferous lodes running through it. A parcel of 20 tons of stone from what is known as the Red Mercury Lode was sent to the Thames to be crushed, and gave a result of about 3½oz. gold to the ton. This company are waiting until the public crushing-battery is completed to get their average lode-stuff crushed.

*Great Mercury Company.*—It was in this company's ground gold was first found at Kuaotuna; it comprises an area of 28 acres. A company has been formed, principally of Sydney people, with a capital of £18,000, in 60,000 shares of 6s. each, the original holders getting 30,000 shares paid