

above the No. 2 level. In this west tunnel, which is 170 ft. in length, there was a vein of fair gold-bearing stone on the south wall, but the bulk of the reef was poor. In the level below there has been a great improvement, both in the quantity and quality of the ore. The Hilda No. 1 level is 87 ft. above No. 2, and consists of a cross-cut 150 ft. in length and driving on the lode 105 ft. Some very rich ore has been got in this level, and the bulk is of fair value, showing the continuance upwards of the Hilda main ore chute.

The Lanigan's and Hilda reef runs nearly east and west, and dips almost vertically. The average width of the reef is from 4 ft. to 8 ft., but in the main Hilda ore chute it is 10 ft. The reef has now been proved by actual mining-work for a total distance of 1,870 ft. It is a fine strong lode, containing several well-marked ore chutes.

The Hilda Cross reef runs about east-north-east and west-south-west, and has been driven along for 303 ft., yielding several good bunches of gold-bearing quartz. The reef appears to be very much shattered at this level.

The Zealandia No. 2 lode runs north-westerly, and has been driven along for 185 ft. There is some fair stone on surface in this reef, but so far it has been poor at the tunnel-level.

The Zealandia No. 1 lode also yields fair stone on surface, but has been poor at the tunnel-level, except for a short chute of payable ore. The tunnel is in 334 ft.

The Australasia lode runs about north-west and south-east, and has been tested by two tunnels, No. 1 being 132 ft. in length, and No. 2 368 ft. Some very good stone has been got in No. 1 level, but the reef is very much broken.

The Opitonui reef is a very large reef running north-easterly, and traceable by large outcrops on surface for about 50 chains. A large amount of prospecting has been done on this reef, six cross-cuts having been driven to intersect it. It is a huge mass of quartz, from 8 ft. to 30 ft. in width, but is generally very poor in gold. Near Lanigan's old dam, however, there is a chute of gold in the foot-wall portion of the reef, which has been proved for a distance of 320 ft., and is worth opening up at greater depth. Gold has also been got in a trench on the outcrop about 490 ft. to the north of these workings. The total amount of cross-cutting done to prove this lode and another large one west of it which outcrops on surface amounts to about 800 ft. In order to work the known chute of gold in the Opitonui reef it will be necessary to sink a large shaft, the site for which has been partly excavated; but it is not intended to go on with this for the present.

Branches from the main railway-line run to the Carvill and Maiden Mines, to Lanigan's shaft, and the mouth of the Hilda No. 2 tunnel, and to the Opitonui shaft. Two branches have also been made up Quartz Creek to get out mining and building timber, and to allow of the Zealandia and Australasia Mines being more thoroughly opened up. The company have bought the standing kauri forest in the Quartz Creek and Maiden Creek Valleys from the Kauri Timber Company, the estimated quantity purchased being 6,500,000 superficial feet. To make the most of this a sawmill has been built, driven by steam, containing a breaking-down frame, circular-saw bench, and breast-bench. This mill stands in the angle between the main railway-line and the branch lines up Quartz Creek.

The stone raised from the various mines will be trucked into hoppers over the railway branches, and thence drawn by a locomotive to the stamp-mill. This is now in course of erection at a central point in the Estates Company's property, about half-way between the above mines and the wharf at Whangapoua. The mill will use the wet-crushing and amalgamating process, with cyanide treatment of the tailings. The plant already contracted for and now partly on the ground consists of two Blake stone-breakers, 15 in. by 9 in. jaw-openings, four grizzlies 4 ft. by 10 ft., eight suspended ore-feeders, forty-stamp battery of 1,150 lb. stamps; and all the other usual appurtenances of a well-equipped mill. The machinery is made by Messrs. Fraser and Chalmers (Limited), at a cost, in London, of £2,567. The steam-power installation consists of one tandem compound Corliss engine, 12 in. by 20 in. by 36 in., and two tubular boilers, 60 ft. by 16 ft., with feed-pumps, heaters, &c. This is also of Fraser and Chalmers's manufacture, and costs in London £2,095 12s. It is proposed to add to the above two 5 ft. Huntingdon mills for regrinding the coarsest sands, four sets of spitzluten and spitzkasten for classifying, and a full cyanide plant for treatment of an output of 120 tons per day.

At the site chosen for the battery water-power can be obtained by a system of races combining the water from the Awaroa, Opitonui, Waingaro, and Waitekuri Streams; but, as the first cost of this would be heavy, it has been decided to use steam until it is seen that the mines will certainly pay for the extra outlay.

The mill-site is chosen at a central point, to which quartz could readily be brought from the Waingaro, Waitekuri, Oweri, and Otanguru Valleys by an extension of the tramway system, as well as from the Opitonui Mines. In all these valleys promising gold-bearing reefs have been discovered.

The railway-line and its branches at present constructed and under construction have a total length of track amounting to nine miles. The rails are 28 lb. per yard, made of steel, with flat fish-plates; 2,000 sleepers are used to the mile. The gauge of the track is 24 in. The locomotive is a Krauss engine, weighing about 7½ tons, capable of drawing a load of 24 tons up a gradient of 1 in 25. The steepest grade on the main line from the wharf to Opitonui is 1 in 40, and the sharpest curve has a radius of 3½ chains. On the branch lines gradients of 1 in 25, and curves of 2½ chains radius, are employed. Ballast of good quality is cheaply obtained from shingle beds in the Waitekuri River.

At Whangapoua a substantial wharf has been built, 70 ft. long, with totara piles and kauri superstructure. A storage-shed is in course of construction. A large and strong goods-shed has also been built at the Opitonui terminus.

The Oweri Mine lies four miles east of Opitonui, in the basin of the Oweri River. A large amount of work was done here some years ago by the Oweri Gold-mining Company, who discontinued operations on account of the ore running down to a very low grade. The present company reopened and retimbered the old levels, and has greatly extended them, and has found a chute of gold quite to the north of the old company's workings. The reef runs north-easterly and dips to