

with the forty-stamp mill. The machinery used for milling comprises one forty-stamp mill of 1,000 lb. weight each stamper and one ten-stamp mill of 600 lb. weight each stamper. There are also two stone-breakers; eight kilns, each of 250 tons capacity; and two, each of 200 tons capacity; nineteen vats, each of 30 tons capacity; and three, each of 23 tons capacity. The power for the above milling plant is water, with an auxiliary steam-power. Water-power: Two 6 ft. 8 in. Pelton wheels to work the forty-stamp mill; head of water, 195 ft.; length of wrought-iron pipe, 2,000 ft.; length of water-race, three miles and a quarter; one 4 ft. Pelton wheel for working vacuum pump; one 6 ft. Pelton wheel, with 162 ft. head of water, for working ten-stamp mill; length of 10 in. main pipe, 835 ft.; length of water-race, 123 chains. Auxiliary steam-power: One compound condensing engine, 150 indicated horse-power, with two Babcock and Wilcox boilers of 190 indicated horse-power for forty-stamp mill; one high-pressure horizontal engine, 24 indicated horse-power, with one multitubular boiler for ten-stamp mill. The average quantity of quartz crushed per stamp-head daily for the forty-stamp mill is 1.5 tons, and for the ten-stamp mill 0.67. The average number stamp-heads employed daily was—forty-stamp mill, 37; ten-stamp mill, 10; total, 47 heads. The number of days worked during the year was—ten-stamp mill, 313; forty-stamp mill, started in August and worked until the 31st March. The total quantity of quartz crushed was 11,410 tons, giving 30,232 oz. bullion; value of £32,645 extracted by the cyanide process. The cost of mining, per ton, was 9s. 11d. The cost of milling and treatment, per ton, was 17s. 3d. The average number of men employed during the year was 352: all wages-men.

*New Zealand Jubilee Mine* (Area, 292 acres 2 roods 25 perches).—Work has been steadily carried on during the year. The low-level adit has been extended 576 ft., and a considerable amount of work done on Christie's and No. 2 reefs. No returns of quartz crushed have been received. Twenty men were employed. This low-level tunnel is being subsidised by the Government, and £42 12s. has already been paid on account of subsidy.

*Young New Zealand Mine* (Area, 14 acres 1 rood 12 perches).—This mine, which is owned by the Young New Zealand Gold-mining Company, is situated at Waitekauri, adjoining the Waitekauri United and Sovereign, and in close proximity to the old Waitekauri Licensed Holding. The land includes the old Welcome and Young New Zealand Claims, which were profitably worked in the early days of Waitekauri. The quartz was then treated by the old battery process, which did not save a very large percentage of the gold. Since the present company took over the property some of the old workings have been repaired and timbered, for the purpose of proving by sinking whether the reef maintains its richness at a lower depth. The first winze was sunk 43 ft., and from the bottom 2 tons of quartz were sent to the School of Mines at Thames, the value of which was stated at £6 5s. 9d. per ton. 80 ft. further north another winze was sunk 14 ft., and operations were suspended on account of the influx of water. From this winze 1 ton was sent to Auckland for treatment by the Fraser process, its value being given at £18 12s. The results from these trial parcels are satisfactory, and the low level, which will give 150 ft. of backs, is advanced 450 ft. up to date. About 200 ft. more driving should intersect the reef, which varies in size from 2 ft. to 4 ft. 6 in. The hanging-wall portion is heavily mineralised, and the foot-wall portion full of blue sulphide veins. Assays made from stone that would give a prospect by pounding and washing by the old battery process were very rich. There are a number of other reefs that have proved to be gold-bearing, varying in size from 34 ft. to 4 in.; in fact, there is a network of reefs and small leaders, so that when a battery is erected the mine promises to be a gold-producer. Five men were employed.

*Grace Darling Mine* (Area, 90 acres).—This mine is situated on one of the branches of the Waitekauri Stream, about two miles up from the Township of Waitekauri. About two years ago a mill was erected and a portion of the reef worked, but the results were disappointing. The mine is now opened up in a more systematic manner, and hopes are entertained that, although of low grade, the quartz may prove payable if large quantities are economically treated. The claim comprises the land formerly known as the Progress, Grace Darling, Portsea, Prioress, Vendor, and Pyramid Licensed Holdings, each of which was held by a separate company, but amalgamation was effected, and the Grace Darling Company is sole owner. The following is a description of the works done in the mine:—

The property comprises an area of 90 acres, originally held in six 15-acre licensed holdings, and known as the Progress, Grace Darling, Portsea, Prioress, Vendor, and Pyramid Licensed Holdings, which are now amalgamated. In the Grace Darling section No. 1 level has been opened up for a length of 150 ft. on the reef, and has an average height of about 60 ft. of backs. The reef, which is of a friable nature, varies in size from 2 ft. to 8 ft. Three rises have been put up to the surface. In No. 2 level a cross-cut was put in, and the lode intersected at a distance of 175 ft. The reef, where cut, is about 5 ft. in thickness. A block about 40 ft. long and 30 ft. high has been stoped out and treated at the mill. The treatment was found to be unsuitable for the class of ore, and, as a consequence, a large percentage of the gold was lost, as no provision had been made for saving the tailings. This level has been opened up for a distance of 500 ft. Three rises have been put up to No. 1 level a height of 82 ft., and passes and chutes constructed at regular intervals. A winze has been sunk about 10 ft., and gold is showing in the bottom of the winze. The average width of the reef is about 6 ft., and in the south face about 8 ft., all of which is gold-bearing. The gold does not seem to be uniformly distributed through the stone, but occurs in narrow runs or shoots. At the No. 3 level a cross-cut 300 ft. in length was required to intersect the reef at a depth of 110 ft. below No. 2 level. The lode, where intersected, is about 11 ft. in thickness, and has been driven on for a distance of 25 ft. along the foot-wall side. No gold has been seen in this level, but portions of the quartz taken from it have given very favourable assays. In the Portsea section No. 1 level has been opened up for a distance of 250 ft., and two rises have been put up to the surface for ventilation. The reef has an average width of 8 ft., carrying gold in