

justified in largely increasing their milling plant. The value of the yield of gold from the Waihi Mine since 1890 up to the 4th April, 1899, was £958,091 6s. 8d., and it may be confidently anticipated that when the returns for the next quarter are added the yield will be in excess of £1,000,000.

*Union Waihi Mine* (Area, 253 acres 1 rood 32 perches; owner, Union Waihi Gold-mining Company, Limited; mine-manager, J. E. Wearne).—The work carried on in this mine during the year has been chiefly toward development. The main shaft has been continued to a depth of 470 ft., No. 1 shaft 70 ft., and No. 2 shaft 240 ft. There are three reefs opened in the mine—viz., the Union reef, of a width of 5 ft.; the Amaranth, of a width of 20 ft.; and the Winner reef. The two former reefs are opened at No. 3 level, and No. 4 level is being opened out 85 ft. below No. 3, and it is proposed to open No. 5 level at 85 ft. below No. 4. The greatest length driven on the Union reef at any of the levels is 900 ft., on the Amaranth reef 1,400 ft., and the Winner reef 50 ft. The amount of new work during the year was as follows: Driving, rising, and cross-cutting, 336 ft.; and two cross-cuts—one 85 ft. and one 170 ft.—below No. 3 level, which are being pushed on with all speed towards the Union reef, on which most of the development work is being done. The machinery consists of one 14 in. Plunger pump with steam pumping-engine, made by A. and G. Price, Thames; one Tangye winding-engine, also driven by steam, with safety-cages from G. Fraser and Sons, Auckland; one air-compressor and receiver (Hirnant); two boilers, multitubular, one from Golden State and Miners' Ironworks, San Francisco, and one Babcock and Wilcox, England. The number of men employed during the year was fifty, exclusive of clerical, management, and fire-wood-cutters. The following extracts from the superintendent's report, read at the annual meeting of the company, held in London on the 21st December last, contain much information about the mine:—

“Mine-development: The greater part of mine-development work, such as driving on the reefs, cross-cutting, shaft-sinking, and sinking winzes, has been done by contract, eighteen contracts in this connection having been let during the year. Latterly there has been a tendency for these works to be taken at a cheaper price than we have hitherto been obliged to pay. This fact is, no doubt, due to general slackness of work in the district, several of the neighbouring claims having either temporarily or permanently ceased operations.

“No. 1 Shaft: The present depth of this shaft is 440 ft., and another 10 ft. of sinking, exclusive of 17 ft. for a pump-well, will enable two new levels, giving 170 ft. of backs, to be opened up on the Union and Amaranth reefs. The sinking of this shaft has somewhat retarded the development of the Union reef at the lower levels, as it was not thought advisable to continue the cross-cut at the No. 4 level to the Union reef—which cross-cut is now in about 20 ft.—for fear of bringing in more water than the sinking-pump could cope with. The next few months, however, should open up a very large body of ore, both on the Union and Amaranth reefs.

“No. 2 Shaft: In the cross-cuts driven off this shaft several bodies of ore were met with, which were followed for some distance. The water in this section was raised by means of a sinking-pump, driven by compressed air, supplied from the air-compressor at No. 1 shaft. As the developments were not very encouraging, and as the compressor was taxed to its utmost capacity to keep this pump going in addition to the pump at bottom of No. 1 shaft, it was deemed advisable to suspend operations here. If at any time it is thought advisable to recommence work here, it can be done at very little extra expense. In any case they would have, of necessity, been stopped, or the water raised by other means, owing to increased water in the No. 1 shaft.

“Hikurangi Water-race: Some work has been done during the year in extending the benching of the race, and widening it out in parts of the benching previously made, where necessary.”

*Waihi Grand Junction* (Area, 280 acres; owners, Waihi Grand Junction Gold-mining Company; mine-manager, J. W. Walker).—The land held by this company consists of two blocks, known as the eastern and western sections, which adjoin the two ends of the Waihi Company's property. During the year a large amount of work was done. At the western end the shaft was enlarged and sunk to a depth of 260 ft., at which level the reef was cut, and a considerable amount of work done on it. At the eastern end a new shaft was sunk to a depth of 494 ft., but at the level opened the reef was not found. At the eastern end also a branch drive was put in at the deepest level, and the reef was tapped 70 ft. nearer the Waihi Company's boundary. The influx of water was so great that the pumps in the shaft were unable to cope with it, consequently operations were suspended until such time as sufficiently powerful pumping machinery would arrive from England. The mining manager, Mr. J. W. Walker, has furnished me with the following notes about this mine:—

“The Junction section adjoins the Waihi Company's ground on their eastward boundary, on the direct line of the great Martha, Welcome, and Victoria reef system. The main, or No. 1, shaft has been sunk to 500 ft., at which depth a cross-cut reached the reef in two places, but the heavy influx of water mastered and drowned the steam-pumps on the 28th January last, and since that time the property has remained unworked and under special protection, pending arrival from England of a mining engineer (Mr. Simmons) and a complete Cornish pumping equipment. Mr. Simmons is due in Auckland on the 10th May, and the machinery is under contract for due delivery in Auckland in October. It is proposed to enlarge the present pumping compartment of No. 1 shaft by removing the division between that and the northern winding compartment. This will make ample room for pump-gear; but the winding will be restricted to one shaft and one cage until more permanent arrangements are made, which will follow later on. The No. 1 level (from No. 1 shaft) at its northern extremity intersected about 2 ft. width of an irregularly formed quartz vein of no value. This quartz doubtless represents the Martha reef at this elevation. The work of sinking and driving from No. 2 Junction shaft represents over £6,000. This section of the company's property is 180 acres area, and will require more than one commodious shaft and one powerful pumping and winding plant for its due development. On the 500 ft. level the two cross-cuts proved the presence of