

*Waihi-Silverton Mine* (Area, 174 acres).—Driving and stoping at Nos. 1 and 2 levels have been vigorously carried on, and the shaft sunk to a depth of 250 ft., where a chamber was opened out and a cross-cut driven to intersect the reef. Driving is now proceeding north and south, the reef being about 7 ft. in width. The ore, though of low grade, is payable. The shaft is also being sunk below No. 3 level, for the purpose of opening up another level as early as possible. The forty-stamp mill has been continuously employed, and 11,253 tons of quartz, yielding 8,456 oz., valued at £16,452, has been crushed. Seventy men are employed.

*Waihi Grand Junction Mine* (Area, 280 acres; owners, Waihi Grand Junction Gold Company, Limited).—Work was carried on in an energetic manner for a considerable part of the year. In consequence of financial difficulties, the old company was reconstructed, and sufficient capital is now available for the development of the mine. A difficulty of no small importance attends initiatory work to open a mine in this part of the district. The land is situated both to the eastward and southward of the celebrated Waihi Mine, but, unlike the Waihi Mine, where the Martha Hill rises to over 200 ft. above the level of the surrounding country, the land at both ends of this hill is covered to a more or less depth with a deposit of later volcanic matter in the form of hard rhyolite rock interspersed with clays, mud, and fragments of the harder rock overlaying the decomposed andesite or bed-rock. In this andesite rock the reefs exist. Therefore, until the overlying strata has been pierced, no exploration can be carried on in country favourable for the presence of quartz lodes. This company, however, succeeded during last year in sinking their shaft at the eastern end to a depth of 507 ft., the first 250 ft. being through the superimposed later volcanic ejecta. At a depth of 494 ft. chambers were formed and prospecting drives made both in a northerly and southerly direction, 167 ft. in the first and 199 ft. in the latter direction. At the western end the shaft, 170 ft. in depth, was opened, and a level driven northerly 601 ft., and in the opposite direction the drive at 430 ft. from the shaft intersected a large body of quartz identified with the Martha reef worked in the Waihi Mine. This drive was then further extended 350 ft., with a view of discovering the Welcome reef, also worked by the Waihi Company. Such was the extent of work done during the year 1896–97.

During the past year the north drive, at the low level in the eastern shaft, was extended to 411 ft. from the shaft. A large reef was here intersected, but, on account of the great flow of water attendant on the quartz being cut into, the pump in use was not sufficiently powerful to cope with it. It was then decided to stay operations until such time as more powerful pumping machinery was obtained, and, taking advantage of a hard bar of andesite, a dam built of cement 5 ft. in thickness was constructed, and the flow of water thereby controlled. It was found at this time that the water was lowered in the workings on the reefs in the Martha section of the Waihi Mine, and thus showing that the quartz cut, and from which there was such a flow of water in this mine, must be identical with the Waihi reefs line. In consequence of the advantage the Waihi Company received from the drainage effected by the use of the Grand Junction pumps, an arrangement was entered into, the two companies combining to bear the cost of keeping the pumps going, which up to date they have continued. This arrangement was satisfactory, as both mines are benefited through the water being kept under to the extent of the capacity of the pumps, thus tending to gradually assist in the unwatering of this part of the district. A new shaft has been sunk at the eastern end, with a view of cutting the reef discovered at the low level. This shaft, which is named No. 2 shaft, has reached a depth of 200 ft.; and a cross-cut driven to the north 40 ft., and another to the south 27 ft., have both, at the 200 ft. level, failed to lead to any discovery of quartz so far. The shaft was then continued to a further depth of 250 ft., and cross-cuts are to be driven both ways at this level. In the workings at the western end, the northern cross-cut which reached 611 ft., was further continued to a distance of 823 ft., the latter portion having been done by the Waihi Consols Company for the purpose of prospecting the adjacent ground, which is their property. No reef was discovered in this direction. The drive in the other direction, which had attained a distance of 780 ft., was continued to 827 ft. The reef which had been cut through in this cross-cut was driven on for 92 ft. A winze was sunk 16 ft. on the lode, and payable quartz was discovered 7 ft. from the top. The winze was then carried down vertical, and enlarged to answer the purposes of a shaft. The quartz obtained from the sinking to a depth of 24 ft., at which point the underlay of the reef carried it clear of the vertical shaft, was of a similar character to that first discovered 7 ft. from the top. Assays of samples of quartz taken from this place were as follows: 9th March—Gold, 1 oz. 15 dwt. 2 gr.; silver, 2 oz. 15 dwt. 12 gr.; value, £7 8s. 6d. per ton. 14th March—Gold, 19 dwt. 9 gr.; silver, 1 oz. 19 dwt. 2 gr.; value, £2 16s. 2d. per ton. In order to advantageously develop this part of the mine, a No. 2 shaft was commenced on the surface at a point immediately over the winze, and at a depth of 160 ft. communication was effected with the winze portion already mentioned, and sinking is now being continued with the intention of opening out as soon as a full depth of 260 ft. from the surface is attained. The reef when cut through was found to have a width of 18 ft., and there is every reason to assume that the famous Martha reef will continue to prove of great value in this the adjacent property.

The machinery used consists of a winding-engine, 7 in. by 12 in.; a 14-horse-power Tangye at No. 1 shaft, and at No. 2 shaft a portable winch and boiler, 10-horse power; at the new shaft, western end, an Otis pair 6 in. by 8 in. cylinders, single drum, 34 in. by 12 in., 6-horse power. The pumping machinery consists of a Worthington compound steam-pump, 16 in. by 25 in. by 15 in., rams 8½ in., duplex, capacity 20,040 gallons an hour, 600 ft. series; one Tangye, 10 in. by 6 in. by 12 in.; one 10 in. by 5 in. by 12 in.; one 8 in. by 4 in. by 12 in.; one 6 in. by 4 in. by 12 in.; one 6 in. by 3 in. by 10 in.; and one duplex, 6 in. by 4 in. by 6 in.; one 4¾ in. by 3 in. by 5 in. boiler-feed pump; a 14-in. air-compressor, with rock-drills; also two 138-horse-power water-tube boilers of the Babcock-Wilcox type. Thirty-seven men were employed.

*Waihi Consolidated Mine* (Area, 200 acres; owners, Waihi Consolidated Gold-mine, Limited).—The shaft in this mine, which had been sunk to a depth of 210 ft., was continued to a depth of 280 ft. Driving on the large reef was continued at the 80 ft. level, and also at the 200 ft. level.