

winze—Crosscut at 80 ft. down proved lode to be 47 ft. wide; average value, £3 9s. 6d. per ton. No. 10 winze was advanced 81 ft., the assays averaging from £2 7s. 10d. to £1 13s. 8d. per ton. The crosscut 80 ft. down showed 36 in. of disturbed reef, the country being also disturbed.

George lode: The winze at 170 ft. east was advanced 43 ft., assays varying from £1 15s. 9d. to 14s. 7d. At 280 ft. east a crosscut was driven 85 ft. to the south. At 36 ft. from the George lode it intersected a reef 4½ ft. wide, averaging £2 3s. 6d. per ton, which, however, later on proved to be a portion of the George lode thrown to the south by a fault. This lode is now referred to as the George Extension, and was driven upon west for a distance of 89 ft. At this point the lode was cut off by a fault. For the distance of 89 ft. driven the lode averaged £2 9s. per ton. The drive east was advanced 98 ft., the country being very much disturbed. No. 1 winze was sunk at a depth of 35½ ft. below the level. The slide cut the lode off at 18 ft. below level. Assay values to this depth were £3 12s. 4d. for a width of 3 ft. 8 in.

No. 4 Level (794 ft.).—Mary lode: The west drive was extended a further 77 ft. The values varied from £1 9s. 6d. to £2 5s. 5d., and the lode varied in width from 7 ft. to 15 ft. The east drive was advanced 436 ft. making a total of 562 ft. The lode showed an average width of 10¾ ft. of payable ore.

No. 3 Level (650 ft.).—Mary lode: The west drive was advanced 89 ft. For 47 ft. the lode was mixed with the country, and assayed 15s. per ton for a width of 4 ft. 10 in. For the balance of the distance driven the lode was 18 in. wide, and low grade. The east drive was advanced 344½ ft. in payable ore.

No. 2 Level (500 ft.).—The crosscut to Mary lode was advanced 135 ft., making a total of 216 ft. At 179 ft. it intersected the Mary lode, 3 ft. in width. This was followed 34 ft. east and 10 ft. west, the lode being small and low grade.

Surface Filling Tunnel.—This was driven a total distance of 564 ft. and a rise put up to the surface, which greatly facilitates the handling of filling for the stopes underground.

Ore mined.—The ore mined came from the following lodes: Martha, 14,295 tons; Empire, 21,068 tons; Royal, 26,198 tons; No. 2 lode, 6,797 tons; Mary, 14,902 tons; George, 1,920 tons; George Extension, 577 tons; Grace, 1,233 tons; total, 86,990 tons. Development produced 19,266 tons of ore, making the total output of mine 106,256 tons. The total quantity of broken ore lying in the shrinkage blocks at end of year was 33,310 tons. The surface paddock contained 1,867 tons at end of year.

General Mine Equipment.—The installation of the winding-engine, winch, boilers, &c., for sinking No. 3 shaft has been completed. The erection of the large capstan engine was also completed. An electrically driven rock-breaker was installed to reduce mine samples before sending to the assay office. A new circular saw was erected in the mine carpenters' shop.

During the year under review a large amount of capital has been spent in improving the mechanical handling of the ore in the mill, so as to reduce manual labour to a minimum. It has been found after lengthy practical tests that a very large proportion of the comparatively coarsely crushed ore is sufficiently fine to liberate its value, provided proper hydraulic classification and concentration is adopted. As a result of these exhaustive trials, plant has been designed and erected to separate 20 to 25 per cent. of the total ore crushed as sand. It has been arranged that these sands, which are as poor as the ordinary slimes, are washed by percolation of water and then settled in extensive pits, and after thorough draining used for filling in the mine. During the year a considerable tonnage of sand was used as mine-filling.

Comparison of costs, &c.: Mining—1910, 7-59s.; 1911, 7-81s.; milling—1910, 6-24s.; 1911, 6-32s.; general expenses—1910, 1-39s.; 1911, 1-38s.; redemption of development account—1910, 4s.; 1911, 4s.; total—1910, 19-22s.; 1911, 19-51s. Ore milled: Value—1910, £1 15s. 10d.; 1911, £1 12s. 8d.; tons crushed—1910, 84,313; 1911, 105,956; extraction of gold—1910, 89 per cent.; 1911, 89-7 per cent.; extraction of silver—1910, 75-9 per cent.; 1911, 63-7 per cent.; extraction of value—1910, 87-5 per cent.; 1911, 87 per cent.; tons crushed per stamper—1910, 7-68; 1911, 9-35.

Waihi Extended Gold-mining Company (Limited) (F. Stewart, Mine-manager).

The principal development carried out in this mine for the year has been the sinking of the shaft to No. 6 level, 1,100 ft. from the surface. A large chamber was excavated, and the main south-east crosscut was driven for 90 ft. in good country. A drive has also been advanced west for 65 ft., and a lode 6 ft. wide has recently been cut. The lode looks very promising, and should open out better when driven on.

At No. 5 level (960 ft.) the drive on the south-east lode was extended to 175 ft. east of the main crosscut, proving the lode for a distance of 200 ft., the ore being low grade. A winze has been started on this lode, which will eventually be connected with No. 6 level, in order to assist the ventilation.

From No. 2 drive a crosscut was driven 120 ft. and the south section of No. 2 reef was met, and driven on for a distance of 90 ft. Although some value was obtained, it was not sufficient to be payable.

An average of fifteen men have been employed.

Pride of Waihi Gold-mining Company (Limited) (F. Stewart, Mine-manager).

This mine has been under protection for the past twelve months. The syndicate having an option over this property are endeavouring to raise capital in London for the purpose of developing it.

Waihi Reefs Consolidated (W. Morrison, Mine-manager).

Work in this mine during the year has been confined to sinking the main shaft, which at the end of September had attained a depth of 914 ft. The funds becoming exhausted, protection was applied for, and work has been suspended since the above date. The manager states that the bottom of the shaft is in a favourable class of country. Fifteen men were employed up to September.