

pump at No. 4 level. The electric pump will be used below No. 5 level, having proved to be very reliable for sinking purposes. A new cage-way has been fitted up in a portion of the pump-shaft, and will be used for handling men and for timber.

*No. 5 (or 944 ft.) Level.*—South-east crosscut: This was extended 988 ft., making a total of 1,005 ft. from the shaft. The Empire (or No. 4) lode was cut at 130 ft., and proved to be 61½ ft. wide, and at 969 ft. the Royal lode, 22 ft. in width, was cut through. North crosscut: This was extended 329 ft., and at 210 ft. the hanging-wall of the Martha (or No. 1) lode was encountered. This lode is 38 ft. wide at the point of intersection.

Empire (or No. 4) Lode: A distance of 308 ft. west and 451 ft. east has been driven on this lode. In the west section there is a width of 14 ft. of good ore, and in the east section the average width is 5 ft.

Royal Lode: West on No. 4 level a total of 362½ ft. is now opened up. This driving opened up a valuable run of good ore about 120 ft. in length and 15 ft. in width, extending to the boundary. Going east a distance of 207 ft. was driven, the first 20 ft. being in good ore, and the balance low grade.

Martha (or No. 1) Lode: At No. 5 level 390 ft. has been driven west on low-grade ore and 241 ft. east on low-grade ore. Crosscuts at intervals along the drives disclose a very wide reef, portions of which are payable. Stopping is in progress at Nos. 2, 3, and 4 levels. The following table shows the amount of development-work done during the year: Driving on reef, 2,434 ft.; crosscutting on reef, 594 ft.; crosscutting through country, 1,382 ft.; rising, 277 ft.; sinking winzes, 1,936 ft.

*Stopping.*—The production of ore was as follows: Empire lode, 12,701 tons; Royal lode, 6,324 tons; Martha lode, 22,273 tons; No. 2 lode, 18,276 tons; Waihi West Mine, 95 tons: total, 59,669 tons.

Since the end of the year the following development-work has been done:—

*No. 5 Level.*—Martha (or No. 1) Lode East: This has been advanced 113 ft., making a total of 354 ft. Crosscuts show the reef to be 53 ft. in width at 245 ft. and 57 ft. in width at 350 ft.

No. 1 Lode West: This was advanced 8 ft., making a total of 398 ft. The drive on the footwall of lode from 250 ft. crosscut advanced 59 ft., width of lode at 250 ft. being 45 ft.

North Crosscut to No. 2 Lode: This is now a total of 471 ft., 143 ft. having been done since the end of the year.

Empire (or No. 4) Lode West: This has been driven a further distance of 14 ft., making a total of 322 ft. The lode is 20 ft. in width at the 200 ft. point.

No. 4 Lode East: This was advanced 249 ft., making a total of 700 ft. The width of lode at 530 ft. is 16 ft., and at 630 ft. is 8½ ft.

No. 6 Lode West: A further 120 ft. has been driven, making a total of 226 ft. The lode is 5 ft. in width at 160 ft. west.

No. 6 Lode East: This was advanced 85 ft.; total, 191 ft. The width of lode at 160 ft. east is 27½ ft. At this point a branch lode junctions with main body on the footwall side, and this has been followed for 24 ft., proving to be 12 ft. wide. The width of the main lode at 190 ft. east is 12 ft.

*General.*—Large hoppers to facilitate the handling of filling have been constructed at Nos. 2 and 3 levels. A direct connection was made from the main air-shaft to the No. 2 level, and this has greatly increased the ventilation of the mine. A large exhaust fan is now being installed at the collar of the air-shaft, and it is anticipated that this will further improve the ventilation.

A new Ingersoll Rand compressor has been installed at the mine. This machine has a rated capacity of 925 cubic feet of free air per minute, at a pressure up to 100 lb. per square inch. A 5 in. air-main has been put down the No. 1 shaft.

A large and well-fitted-up change-house has been erected near the No. 1 shaft, and this is much appreciated by the men.

*Battery.*—The plant has been increased by the addition of four extra tube mills, each 16 ft. by 4 ft.; a large tailings-wheel; and eight new concentrating-tables. Two more of the 13 ft. by 55 ft. air-agitation tanks have been erected.

The vacuum-filtration plant has been increased by the erection of two extra tanks and extra baskets. A sampling arrangement has been installed at the rock-breaking department.

The process of crushing in cyanide solution has been continued, and the ore is now being ground to pass through 200 mesh, and everything is treated as one product, the result being very satisfactory.

#### *Waihi Extended Gold-mining Company (Limited).*

The work in this mine has been chiefly confined to opening up No. 5 level at 960 ft. from the surface. Upwards of 300 ft. of driving has been done on the course of No. 2 lode, two winzes being sunk from No. 4 level to insure ventilation.

A crosscut has been driven from the shaft for 477 ft. in a south-easterly direction. At 230 ft. a lode formation, 15 ft. wide, was met with, faces being opened up on it both north and south preparatory to driving. At 410 ft. in the crosscut the Martha lode was intersected, and proved to be 28 ft. in width. Driving both ways on this lode is now in progress.

Early in the year an air-compressing plant and a rock-drilling plant were installed, and recently a most powerful winding-engine has been erected, and is now being utilised.

#### *Waihi Reefs Consolidated.*

This company has recently been reconstructed, and preparations are being made to sink the shaft, which is now down 539 ft., to 1,000 ft. before opening out. For this purpose a compound tandem steam-engine is in the course of erection, 16 in. and 26 in. cylinders by 3 ft. stroke, and an air-compressor capable of producing 631 cubic feet of air per minute. Some alterations are also being made to the pit-head gear and winding-engine.