

*Waihi Grand Junction Gold Company (Limited)* (W. McConachie, Mine-manager).

The following is a short report of the operations carried on during the year:—

*Waihi West Claims.*—No work has been done this year on these leases, as it is the intention to thoroughly develop the Junction Block and get it on a paying basis first.

*Grand Junction Mine.*—A summary of development-work carried out during 1910 is as follows: Main and intermediate drives on lodes, 5,588½ ft.; crosscutting lodes, 1,614½ ft.; rises on lodes and through country, 921½ ft.; winzes, 568 ft.; driving and crosscutting through country, 4,355½ ft.; shaft-sinking, 44¾ ft.; total, 13,092¾ ft.

*Main shaft.*—A centrifugal electric pump was installed at No. 5 level, to take water from sinking-pump and lift to Cornish pump. Owing to a breakdown of No. 2 generator, and cutting heavy water in the shaft, work was delayed; total depth of shaft is now 1,020 ft. At the bottom a lode 8 ft. wide, assaying 19s. 9d., was met with.

*No. 5 Level* (944 ft).—North crosscut was advanced 519½ ft.; total length now 848 ft. At 470 ft. No. 2 lode was cut, the lode being narrow and low grade. At 630 ft. another lode, 7 ft. in width and carrying no values, was intersected. A new lode (Mary) was cut at 827 ft.

Martha lode, west: The main drive was continued 8 ft., making a total of 388 ft. The values are mostly low.

Martha lode, east: The main drive was advanced 895 ft., or a total of 1,136 ft. The ore is low grade, and averages 45 ft. in width.

No. 2 lode: The east drive was advanced 865 ft., and holed into Extended property. The lode is irregular and ill-defined.

Mary lode: The crosscut at 336 ft. west from Martha lode intersected this lode 14 ft. wide at 80 ft. north of Martha. The lode was driven on 720 ft. to north-east boundary, and will give a large tonnage of payable ore. No. 2 rise has been connected with the No. 2 winze, and No. 5 rise has been advanced to 70 ft. above the level.

No. 4 (Empire) lode: The west drive was advanced 116 ft. to Waihi Company's boundary, making a total length of 424 ft. of payable ore. Stopping is now in progress here. Nos. 3 and 4 rises have been holed to the winzes.

East drive, on No. 4 lode, was advanced 540 ft., making a total of 991 ft. At 866 ft. the lode faulted, but was picked up again at 900 ft. At this point the reef is narrow, but carries good values.

Crosscut at 980 ft. east: This was driven 575 ft., to pick up Royal lode east of fault, and several low-grade bodies of ore have been cut. These are probably connected with the Royal lode, and some driving has been done on them, but work was suspended to improve the ventilation by crosscutting to the Extended workings. Seven winzes, varying in depth from 11 ft. to 22 ft., have been sunk in good ore on the Empire at this level.

South-east crosscut: This was advanced 389 ft., making a total of 1,394 ft., but nothing of value was met with.

No. 6 (Royal) lode: The west drive was advanced 361 ft., making a total of 467 ft. Crosscuts at 310 ft. showed 16 ft. of ore; at 400 ft., 15 ft. of ore; and at 460 ft., 21 ft. of ore. The east drive advanced 632 ft., or a total of 738 ft., at which point the reef faulted. Crosscuts showed the width of reef as follows: At 160 ft. east, 27½ ft. wide; at 270 ft. east, 15 ft. wide; at 350 ft. east, 13 ft. wide; at 420 ft. east, 13 ft. wide; at 510 ft. east, 36 ft. wide; at 600 ft. east, 15 ft. wide; at 690 ft. east, 54 ft. wide. Nos. 7, 8, 9, 10, and 11 rises have been put up varying distances, and show that country with values is dipping going east.

George lode: This is a branch of Royal lode, at 190 ft. east, and was driven on for 260 ft. in payable ore.

The Central lode, another branch of the Royal lode, was driven on 66 ft., but carried no values.

*No. 4 Level.*—No. 6 (Royal) lode: The drive east was put in 576 ft. in country to locate winzes to ventilate No. 5 level.

Crosscut to Mary lode, at 170 ft. west on Martha: This was put in 158 ft., and the Mary lode intersected, 12 ft. wide, at 142 ft. The lode was driven on 196½ ft., in payable ore. At 135 ft. crosscut east lode is 16½ ft. wide.

No. 2 lode: Stopping is in progress above the intermediate drive, which was put in from No. 4 winze for 230½ ft.

*No. 3 Level.*—Martha lode, crosscut to Mary lode: This was started at 144 ft. west of north crosscut, and advanced 179 ft. The Mary was cut, at 156 ft., and proved to be 14½ ft. in width, of payable ore.

Main south-east crosscut was advanced 695½ ft., making a total of 983½ ft.

*No. 2 Level.*—The crosscut at end of old north crosscut was put in 60 ft., to find the Mary lode at this level.

*Air-samples.*—Samples of air taken in this mine in the warmest working-faces gave the following results: Drive east on Royal lode, No. 5 level—Temperature, 87° dry, 81° wet (Fahr.); carbon-dioxide, 0.10 per cent.; oxygen, 20.96 per cent. Drive east on Mary lode, No. 4 level—Temperature, 83° dry, 82° wet (Fahr.); carbon-dioxide, 0.17 per cent.; oxygen, 20.40 per cent.

Total ore sent to mill: 60,717 tons from stopping; 25,351 tons from development-works: total, 86,068 tons.

The total amount of ore broken and in shrinkage blocks is 18,032 tons.

The ore mined came from the following lodes: Martha, 15,238 tons; Empire, 26,613 tons; Royal, 8,136 tons; No. 2 lode, 10,730 tons; developments, 25,351 tons: total, 86,068 tons.

Additions to mine-equipment and mills: An Ingersoll Rand A<sub>2</sub> compressor (steam-driven) was installed to assist the electrically driven air-compressor. A Sirocco fan, with a capacity of 40,000 cubic feet of air per minute, was installed at No. 2 shaft, to improve the mine-ventilation; also several