copper plates. Amount paid in dividends for the year, £322,339 11s.; total paid in dividends, £1,924,617 16s. 6d.

Waihi Grand Junction Gold Company (Limited).—The following outline of the works carried on by this company for the year ending the 31st December, 1905, is supplied by Mr. Simmons, superintendent, and Mr. Armstrong, chief electrical engineer. The work pushed forward underground during the year was chiefly the driving of the No. 3 level east and west on both the Martha Lode and No. 2 lode, and the opening-up of blocks of ore between Nos. 2 and 3 levels. The Martha Lode has now been driven from the intersection of the lode in the crosscut from the shaft for a distance of 437 ft. east and 340 ft. west, and the No. 2 lode from the same place a distance of 575 ft. east and 11 ft. west. The Martha Lode shows an average of about 20 ft. wide, but has not been tested for the full length of driving. The No. 2 lode averages in width about 5 ft., and along this lode winzes have been sunk every 80 ft. from the No. 2 level, and rises put up from No. 3 level to meet them. In all eight winzes were sunk in this way, seven of which have been connected through to No. 3 level. An intermediate level was also put in, starting from the D winze at a point about 40 ft. from the crosscut between the Nos. 2 and 3 levels, and driven for a distance of 152 ft. along the course of the reef. Summary of work underground: Driving, 1,580 ft.; sinking, 800 ft.; rising, 590 ft.; crosscutting to prove lodes, 281 ft.

During the year the company pushed ahead the erection of the 40-stamp battery which was purchased from Opitonui. Added to this plant was a considerable quantity of new machinery from Home, including three new gyratory crushers and large tube mills, also anvil-blocks, each weighing about 5 tons. These anvil-blocks are of cast-iron, and are to be placed under the stamper-boxes with a sheet of rubber between and take the place of the large wooden blocks at one time used for that purpose. The power-station consists of a steel building 98 ft. by 50 ft., divided into boiler-house and engine-room and separated by galvanised-iron partition. The steam-generating plant consists of three Babcock-Wilcox two-drum water-tube boilers, each having a heating-surface of 3,140 square feet and a grate-area of 55¼ square feet. The working-pressure of the boilers is 200 lb. per square inch, and by means of internal superheaters the temperature corresponding to this pressure can be raised by 100°–120° Fahr. The boilers are designed for burning slack coal, and for this purpose mechanical chain-grate stokers are provided. Weir's feed-water pumps and a feed-water heater are installed for feeding the boilers, and the feed-water on its way to the boilers passes through a Green's economizer. The smoke-stack is 115 ft. high from firing-level of the boilers and 5 ft. 6 in. in diameter. The engine-house contains three Richardson-Westgarth-Parsons steam-turbines, each capable of developing 580 brake horse-power at a speed of 3,000 revolutions per minute, the steam-pressure being 180 lb. Each turbine is direct-coupled to a Brown-Boveri three-phase alternate-current generator wound for a tension of 550 volts and fifty periods per second. The exciting current for the rotor of the generators is provided by a continuous-current dynamo direct-coupled to the generator-shaft and running at 3,000 revolutions, the tension being 110 volts. The switch-board contains three generator-panels and three feeder-panels with six feeder-circuits. All current-carrying apparatus is arranged behind the board, access to the back of switch-board being by a door which is always locked, so minimising the possibility of any person coming into touch with the current-carrying parts. Each generator-panel contains instruments for the exciter and generator and synchronizing apparatus, all the switches being enclosed in oil, and the generator-switches are automatically operated by means of an overload time-limit relay. Each turbine unit is complete with its own condenser, air-pumps, and centrifugal pump for the circulating water for the condensers, all the pumps being driven by motors. An electric winding-machine, manufactured by the International Company, Belgium, is on order and expected to arrive about the early part of May. The engine will be capable of winding 1,000 tons from 2,000 ft. in nineteen hours. The winding-motor is for 300 ft., and of the continuous-current type, current being supplied by a synchronous motor-generator capable of developing sufficient power for the mean load of the winder, the difference between this and the maximum load at starting being supplied by a fly-wheel generator working between 300 and 600 revolutions per minute, and alternately is a motor and generator capable of absorbing between these speeds 100-horse power, the fly-wheel weighing about 5 tons.

The quartz raised from the mine will be dumped into a hopper at the top of the shaft and conveyed by means of an aerial ropeway to the crusher-house at the back of the stamps, then put through a "Heclon" crusher, the smaller quartz passing into a hopper and the larger quartz passing through a second "Heclon" crusher. The whole amount is then to be raised by a bucket elevator and conveyed by means of a belt distributor to the forty heads of stamps at present installed, and, after passing over the amalgamating-plates, will be treated by two tube mills and then undergo the usual cyanide-process treatment. The crushers, stampers, and tube mills are each driven by a 150-horse power three-phase motor, besides which there are several small motors for driving sand-pumps. Preparations are at present being carried out for a further increase of 60 heads of stamps which are on order.

Waihi Extended Mine.—In the beginning of the year sinking operations were in hand and continued until a depth of 134 ft. was reached, making the shaft a total depth of 652 ft. from the surface. This work being completed, the driving of a crosscut in a west-north-west direction with a view of intersecting the reef cut in the 500 ft. level was commenced, and a distance of 406 ft. driven, the result being that no reef was cut although some small quartz-formations were passed through. The work proved that the reef had dipped more than was anticipated. A new crosscut was then started from the chamber in a south-south-west direction to a point directly under the place where the reef was cut in the higher or No. 2 level just before the close of the year. When a distance of 300 ft. had been driven a quartz-body was unexpectedly intersected. Probably this will turn out to be the No. 1 junction reef. If this should be so, then there is no doubt that the reef intersected in the No. 2 level will be found further