

being an increase of 36,240 tons. The total average number of stamps running during the year, exclusive of Sundays and the period at Christmas during which the mills were stopped, was 315·187 out of 330 stamps. The total average duty per stamp per diem was 4·167 tons, representing an increase of 0·373 ton per stamp per diem compared with the previous year.

Waihi Mill : Elevator-wheels Nos. 1 and 2, being too small, have been replaced in a new position with wheels of larger capacity. Adjustable nozzles have been fitted to the three main Pelton wheels in the mill, the pipe-line being removed further back from the stamps, leaving more room for the pulp-chutes, which now have to be laid to a steeper grade to carry the coarser sand. A light tramway has also been laid along the full length of the mill, making the handling of mortar-boxes, shoes, dies, &c., more convenient. Five new steel vats 25 ft. diameter by 6 ft. deep have been put in, as some of the old wooden percolating-vats were getting into bad order. A connection has been made to the main-mill shafting to drive the fourth tube mill, which was erected as a spare one, so that all four mills can be used when power is available. In the engine-room an electric generator has been erected for driving the motor in the new melthouse, which is now completed. The demand for steam having increased, the Lancashire boiler formerly driving the tube-mill plant at Victoria Mill has been removed and re-erected at Waihi Mill.

Victoria Mill : Three new elevator-wheels of ample capacity and improved construction have been erected alongside the two main wheels, which had caused trouble and delay through being overloaded. The old wheels will be kept as a stand-by. The old buddle plant, being of no further use, has been pulled down. The precipitator-room has been enlarged, fifteen new precipitators having been put in and brought into use. A direct connection has been made between the Government Railway and the boiler plant, facilitating the handling of coal. The vacuum slimes plant for removing the gold-bearing solutions from the pulp is completed, the filter-press plant now being stopped. The thirty-two tall agitator-tanks are in use, and foundations for ten more are being prepared. Producer-gas and tube-mills plant : The full number of ten tube mills have been erected, eight of which it is proposed to run full time. A 200-horse-power Crossley gas-engine drives these, together with the vanner plant and three elevator-wheels. Concentrates treatment plant : The 200-horse-power gas-engine for running this plant has been erected and brought into use.

Union Mill : The foundations for one tube mill have been prepared and are ready for the mill, which is being made at Victoria workshops. A new elevator-wheel of larger capacity is being made, and will be erected shortly. A 25-horse-power Leffel turbine has been erected to develop power from surplus water in the low-pressure system.

The mines and mills were regularly visited during the year, and every precaution appears to be taken by the management to prevent accidents, as is proved by the fact that there were no accidents of a fatal nature in the mine. At Victoria Mill, however, a man was killed through being caught in the elevator-wheel whilst repairing it. An average number of fifteen hundred men were employed during the year.

Waihi Grand Junction Gold Company (Limited).

The operations carried out for the past year are as follows :—

No. 4 Level.—South-east crosscut : This was extended a distance of 1,008 ft., making a total of 1,082 ft. from the shaft. At 210 ft. in, the No. 4 reef was cut, and has been driven on 211 ft. east and 436 ft. west. The average width of lode is 10 ft., of which 4 ft. is payable ore. At 985 ft. the first branch of No. 6 lode was intersected, and the second and third branches at 1,023 ft. and 1,037 ft. respectively. The first branch was driven on 50 ft. east and 37 ft. west, and there is a run of ore for about 65 ft. of this distance. No work has been done on the second branch. The third branch is being driven on east and west. Going east the lode is 7 ft. 6 in. wide of payable ore, and west the ore is 8 ft. 4 in. in width. This reef will be thoroughly explored during the coming year.

Martha Lode : The drive east was extended 269 ft., making a total of 788 ft. From 586 ft. to 673 ft. a new and important run of ore was encountered, the average width being 6 ft. 6 in.

The total footage driven, risen, and sunk during the year was 3,158 ft. Stopping has proceeded on the Martha and No. 2 lodes at Nos. 2, 3, and 4 levels, and on the No. 4 lode at No. 4 level. The production of ore for the year was 48,937 tons, obtained from the following lodes : Martha lode, 25,627 tons ; No. 2 lode, 20,246 tons ; No. 4 lode, 2,644 tons ; No. 6 lode, 420 tons : total, 48,937 tons.

At the No. 1 shaft the wooden head-gear has been replaced by a 90 ft. steel lattice-work head-gear.

A new electrically driven haulage motor is being used at the surface for handling mullock, and has proved so successful that it is intended to extend the use of these motors to the underground working for hauling quartz.

The No. 1 shaft was sunk 146 ft. during the year, making a total of 976 ft. from the surface, or 32 ft. below No. 5 level. Two chambers have been cut at No. 5 level. An electrically driven Sulzer turbine pump was used in sinking operations to pump water to the reservoir supplying the Cornish pump, which lifted it to the surface.

A kerosene drill-heating furnace has been fitted up at the blacksmiths' shop, and is doing excellent work.

Battery.—The chief additions to the plant during the year consist of the installation of a 16 ft. by 4 ft. tube mill, a new tailings-wheel, and two classifying-boxes to handle the output of this mill and the 19 ft. by 4 ft. 8 in. mill formerly used for grinding concentrates. Six more of the 13 ft. by 55 ft. air agitator-tanks have been erected, making a total of eight of this size of tank in use. Four tanks, 7 ft. 6 in. by 37 ft. were put in for treating concentrates, and are now being used for slimes. Additional concentrating-tables have been installed, and important alterations have been made to the vacuum filters.