

270,000 tons of filling-material has been obtained from the various filling cuttings and deadwork crosscuts for filling up the depleted stoping-area underground. Nine shafts are in use for conveying the filling into the mine, and the depths of those shafts vary from 500 ft. to 700 ft. Crosscuts to filling pass were projected at Nos. 2, 4, 5, 6, 7, and 8 levels. The total footage driven, risen, and sunk during the year is 19,039 ft.; and the total tonnage of ore crushed amounted to 356,974 (dry weight of 2,000 lb. per ton). The ore has been obtained in the following proportions from the various reefs worked during the year: Martha reef, 177,800 tons; Royal reef, 46,645 tons; Empire reef, 45,660 tons; Welcome reef, 43,339 tons; Edward reef, 13,239 tons; Albert reef, 12,231 tons; Regina reef, 4,339 tons; Victoria reef, 3,871 tons; Princess reef, 3,076 tons; Magazine reef, 2,252 tons; Reef I, 1,528 tons; No. 2 reef, 1,346 tons; Reef J, 1,208 tons; Rex reef, 240 tons: total, 356,974 tons.

The total quantity of water raised to the surface during the year from Nos. 8 and 9 levels was as follows: A pump, nil; B pump, 90,015,359 gallons; C pump, 417,413,000 gallons: total, 507,428,359 gallons.

Subsidence: In October last a settlement was noticed on the hanging-wall side of the Martha, the line of settlement being along the Magazine and Regina lodes, which are practically worked out from the surface to No. 5 level. As most of the old levels have been packed from the surface, and all the depleted stopes well filled with mullock, it is impossible for a serious subsidence to happen. To prevent any excitement among the men underground, the company promptly withdrew them until the settlement had found a solid foundation against the foot-wall, and then resumed operations after a delay of ten hours. Beyond a few sets of timber broken and a small quantity of country rock flaked off the walls of some of the upper crosscuts, no damage was done.

Reduction-works: The tonnages crushed at the three mills, together with the totals crushed during 1906, were respectively as follows: Waihi mill (ninety stamps) and three tube mills running full time (one spare)—1907, 117,409; 1906, 111,056. Victoria mill (200 stamps) and two tube mills all the year, five tube mills during last two months—1907, 211,062; 1906, 189,261. Union mill (forty stamps)—1907, 28,503; 1906, 28,549. Totals,—1907, 356,974; 1906, 328,866. The increased tonnage during the year 1907 thus amounts to 28,108 tons. The total average number of stamps running, exclusive of Sundays and the period at Christmas time during which time the mills were stopped, was 316,488 stamps out of 330 stamps. The total average duty per stamp per diem was 3.794, representing an increase of 0.29 ton per stamp per diem compared with the previous year.

Waihi mill (90 stamps): The balance of the old main shafting was removed during the stoppage at Christmas time and replaced with a stronger one. The No. 2 slimes plant has been finished off, so that it is now possible to treat the whole of the slimes by this means. The elevator wheels Nos. 4 and 5, not being of sufficient capacity to deal with the increased output, have been replaced with larger ones of improved construction. These were built complete, then taken down and re-erected in their proper position during the annual stoppage. The turbine from low-pressure race, which was badly worn, has been brought to surface, and completely overhauled. Its running has been greatly improved. The Honeycomb tube-mill liners continue to give satisfaction, the life of a set of the thickness used being from twelve to fifteen months, and the cost per ton milled being under one-sixth of what it was when using imported silex-boxes. A sawmill is being erected to deal with the timber brought down the Ratarua Tramway. The company has also added to the office buildings at the Victoria mill a room which is being fitted up to receive any person injured while at work.

Victoria mill (producer-gas and tube-mill plants): The main portions of these plants have been completed, and everything in connection with the producers and gas-engine is working satisfactorily. The cost of this power will be considerably lower than the cost of steam, the consumption of coal per horse-power being only about one-half. At present there are seven tube mills erected, which, with the concentrating plant and elevator wheels, are driven by three 200-horse-power Crossley gas-engines. The slimes plant has one unit out of the three completed; the balance will be finished early in the year. The thirty-two agitator tall tanks, worked with compressed air, are erected; the pipe-work is being completed. Eight are now finished, and being filled with slime. The necessary air-compressors, vacuum pumps, and solution-pumps are partly completed, and some are running, the power being supplied by a 200-horse-power Crossley gas-engine. To drive the motors on the overhead cranes, a 35-horse-power gas-engine is used to run the generator, 35-horse-power gas-engine also driving the electric-light dynamo. Another 35-horse-power gas-engine is being erected to drive the blowers, loam mills, &c., in the foundry. The concentrates-treatment plant has been increased by the addition of a standard-size tube mill and six more agitator vats, and a 3 ft. 6 in. Martin filter-press is being erected in place of the small central-filled Dehne press.

Union mill (40 stamps): At present no tube mills are working in this plant. A short conveyor was erected to distribute the ore from the elevator from stone-breaker to the end ore-bin.

The mines and mills were regularly visited during the year, and everything was carried out in a most efficient manner. That great care was exercised for the safety of the men cannot be questioned, and I am pleased to chronicle that no fatal accidents have happened at the mine, although occasionally a few of a serious nature have occurred. At the Victoria mill one fatal accident happened through a workman getting caught in the coupling of a driving-shaft, and being whirled round. An average of fifteen hundred men were employed by the company.

Waihi Grand Junction Gold-mining Company (Limited).—The operations carried out for the past year are as follows:—

No. 2 level (500 ft.): The drive on the Martha lode has been widened out for stoping, and it is found that a large quantity of ore of good quality exists here. The drive on the No. 2 lode has been timbered ready for stoping, and the grade of the drive has been reduced so as to make it easier to truck mullock.