

Northern Inspection District.

Waihi Goldfield.—Waihi Gold-mining Company (Limited): Owing to impoverishment of the lodes at levels Nos. 9 and 10 (respectively 1,000 ft. and 1,151 ft. in depth), there has been a considerable decline in the production below that of the previous year, the decrease amounting in value to £255,921. At the deepest, or No. 10, level an enormous amount of development has been carried out during the year. The Martha, Empire, and Royal lodes have been driven upon, and have generally been found too low in grade to be payable. Better value was proved by development at the No. 9 (1,000 ft.) level, although the ore was of much lower grade than in the level above. For the development of the lodes at greater depth, shafts Nos. 4 and 5 are being sunk below No. 10 level, and during the current year will probably reach a depth of 1,300 ft., where another level will be commenced. The normal flow of water during sinking has been estimated at about 1,200 gallons per minute, which is dealt with by the B (17 in.) plunger pump installed at level No. 10 (1,151 ft.). This delivers water to Hathorn-Davey electrically-driven three-throw (12 in.) ram pumps, which work in two stages from chambers at the 1,000 and 540 ft. levels.

One of the geological hypotheses advanced (considerably after the event) as a reason for the decline in value is that the country immediately adjoining the lodes has changed from massive into bedded dacite, distinguished only by a coarse texture and interbedded seams of carbonaceous matter; but from actual observation, having recently inspected the mine, I am satisfied that the impoverishment is due rather to the leaching of the ore by percolating water; but whether by descending meteoric water or ascending thermal solutions or as steam I am unable to venture an opinion. One thing is certain, however—namely, that the quartz bodies at the No. 10 level have been severely leached, and show advanced oxidation, the calcites being in a metamorphose state, and only remnants exist of the rich sulphide shoots which occurred in the upper levels. The future prospects of this famous mine depend entirely upon the result of further sinking and crosscutting.

The Waihi Grand Junction Mine has at last reached the dividend-paying stage, the sum of £19,218 having been so declared during 1911.* From this mine there has been an increase of tonnage and gold-yield, although the ore treated is still of lower average value than that from the adjoining Waihi Mine. Development of the deepest or No. 6 (1,082 ft.) level during the year was very satisfactory, as will be seen by the report of Inspector M. Paul (Annexure A). Three lodes have been driven upon at this level—namely, the Dominion, Republic, and Empire—and the average assay value from each shows the ore to be payable. The ore mined was obtained from eight separate lodes; during the year 8,751 ft. was driven for development. Sinking operations are being carried out at No. 1 shaft below the 1,082 ft. level, and a new shaft (No. 3), situated about 1,150 ft. to the east of No. 1, has been commenced. Extensive additions and alterations have been made for the purpose of improving the mechanical handling of ore at the mill.

The operations at the Waihi Extended Gold-mining Company's mine have consisted in the sinking of the shaft to the No. 6 (1,100 ft.) level. At this depth a promising lode 6 ft. wide was proved by a short drive to the westward. At the No. 5 (960 ft.) level, development on the south-east lode proved quartz of low grade. From No. 2 drive a crosscut intersected the south section of No. 2 reef, but upon development the quartz was proved to be unprofitable.

At the Waihi Reefs Consolidated Mine the main shaft was continued to a depth of 914 ft. in favourable country, but operations were suspended owing to lack of money.

The Waihi-Paeroa Gold-extraction Company (Limited), formed for the purpose of extracting bullion from the tailings deposited from the Waihi and Karangahake Mines into the Ohinemuri River, having completed their large treatment plant on the river near Paeroa, the first return was obtained on the 23rd March. As the result of fourteen days' operations, £1,412 14s. 10d. was obtained from 3,845 tons of tailings treated.

Karangahake Goldfield.—The Talisman Consolidated (Limited) have again improved upon their previous annual production. From 47,550 tons treated, bullion to the value of £222,058 was obtained, of which £109,307 was paid in dividends. The history of this mine during the past nine years under the superintendence of Mr. Stansfield has been a continuous success, and the developments of recent date furnish satisfactory evidence that this success will continue. At the deepest, or No. 14, level the rich ore-bodies existing in the levels above are again exposed, and carry high values. Winzes from this level have been sunk to a further depth of 62 ft. (or 762 ft. below the Waitawheta drainage adit), and drives therefrom at that depth expose high-grade ore. From the evidence obtained at the deepest workings during my recent inspection of this mine, there is every appearance of the rich shoots of ore living to a considerable depth. Sinking at the Woodstock shaft is proceeding with expedition. The new Cornish electrically driven pump is working satisfactorily, but it will be a considerable time before this shaft reaches No. 14 level, where it is proposed to make a through connection between the Talisman and Woodstock shafts.

New Zealand Crown Mines (Limited): The results obtained from this mine during 1911 show a considerable improvement when compared with the returns for the previous year. Operations during 1911 have been mostly confined to the upper levels of the Welcome and Crown reefs, and but little deep development elsewhere has been carried out. The machinery in connection with the treatment plant is now all electrically driven, and the Waitawheta main adit is lighted by electricity for 1,700 ft.

* During the early part of 1912 another dividend was declared.