

plant, and river-protection, amount to £1,383 13s. 3d., being a small fraction over 2s. 5d. per ton. The battery is in good order. Early in the year the cam-shaft, which has been so long in use, showed signs of giving way; a new one has been procured should the old one break down.

Cyanide department: The alteration which has been made in the manner of conveying the tailings into the leaching-vats is a decided improvement. Settling-tanks have been erected, into which the tailings are run from the elevating-wheel, and afterwards, when well filtered, are trucked into the leaching-vats in a dry state; this method mixes the fine slimes and the coarser sands well together, so that there is now no trouble whatever with the percolation. For several months during the year antimony has been troublesome, causing the extraction to be not quite so successful as it otherwise would have been. The most of the ore which contained antimony came from No. 2 level, and, as that level is for the present done with, it is hoped that in future the mine will be free of antimony, as there is no trace so far in No. 4 level. The amount of 1,408 oz. 19 dwt. 3 gr. of bullion has been obtained during the year, valued at £4,210 9s. 10d. The extraction, computed on the total tonnage crushed, is equal to 7s. 4½d. per ton. The working-expenses for the year, including cyanide, zinc, and all material consumed, has been £2,135 19s. 7d., being very nearly 3s. 9d. per ton on the gross tonnage. The expenditure of £337 6s. 9d. on alterations and additions is not included in the above sum, the profit for the year being £1,737 3s. 6d., equal to 3s. 0½d. per ton.

The following reports on the Consolidated Goldfields of New Zealand (Limited), the Progress Mines of New Zealand (Limited), and the Welcome Gold-mining Company (Limited) have been supplied by Mr. E. W. Spencer, general manager for the respective companies:—

Consolidated Goldfields of New Zealand (Limited).—(1.) *Wealth of Nations.*—Owing to the impossibility of working at any greater depth with the present water-wheel, which is used to hoist with, the bottom of the mine remains the same as at the corresponding period last year, with the exception of a winze which is being sunk from the bottom (800 ft.) level. This at the end of the year had reached a depth of 50 ft. A crosscut from this level had also been run out towards the site of the new shaft. This constitutes the total amount of development for the year. Stopping was carried on in a general manner between the 350 ft. level and the 800 ft. or bottom level, producing 11,566 tons of ore, which, when crushed, yielded bullion to the value of £17,568 1s. 4d. by amalgamation, and concentrates to the value of £926 7s. 1d. At the cyanide-works 7,726 tons, representing 66·799 per cent. of the tonnage milled, were cyanided, yielding bullion to the value of £4,667 11s. 2d. or 12s. 0·993d. per ton treated. Of this amount, 3s. 1·788d. per ton was absorbed in working-costs, leaving a profit per ton treated of 8s. 11·205d. No additions of importance have been made to this plant during the year.

(2.) *Energetic Shaft.*—At the commencement of the period under review this shaft had been retimbered for a distance of 70 ft. The work of stripping, enlarging, and retimbering was carried on steadily up to surface, 362 ft., which was reached early in March last. The brace of the shaft was then raised 12 ft., an engine and boiler was installed, and head-gear erected for the purpose of sinking the shaft, which was done on wages until the connection with the Wealth of Nations battery level was made. The shaft was then let on contract, and at the end of the year had reached a depth of 415 ft. below the battery level, or 831 ft. in all from the surface. The shaft will probably reach the bottom level of the Wealth of Nations Mine about the middle of June. The new hoist is now on order from London.

(3.) *Golden Fleece.*—A considerable amount of development-work has been done in this mine during the year, principally on Nos. 11 and 12 levels, besides sinking the shaft between these two levels and making the necessary connections. Stopping has been carried on from the Royal tunnel down to No. 11 level, and a large amount of ground has been gone over to provide the tonnage crushed, the reef being very irregular throughout the mine, making it necessary to stope a considerable amount of blank ground to get at isolated patches of quartz. During the year 13,614 tons of quartz was crushed, yielding bullion to the value of £23,403 13s. 11d., besides producing sulphurets which were sold for £1,741 18s. 10d. At the cyanide-works 9,550 tons of coarse sands, representing 70 per cent. of the total crushed, together with 880 tons of tailings from the old Venus Mine, was cyanided, yielding bullion to the value of £4,744 12s. 7d. Of this amount, 2s. 3·716d. was absorbed in working-costs, leaving a profit of 6s. 9·460d. per ton. No alterations of importance have been made in the equipment during the period under review, and the machinery has done good work.

Progress Mines of New Zealand (Limited).—Very extensive developments have been made during the year, comprising 3,283 ft. of driving and crosscutting, and 795 ft. of rising and sinking, with the result that the ore-reserves of mill rock are practically the same as at the corresponding period last year, although 56,000 tons has been mined and milled. An enormous tonnage of low-grade rock has also been opened up, which, under present conditions, will not pay to extract. The principal developments have been carried on in Nos. 2, 5, 6, 8, 9, and 10 levels, whilst stopping has been conducted in a general manner throughout the mine from No. 2 level downwards. The shaft remains as before, the lowest level open being No. 10. At the end of the year the most interesting part of the mine was No. 6 level east, where a very fine ore-body 34 ft. from foot to hanging-wall, dipping at an angle of 30°, was recently cut through. This was being vigorously opened up by means of rock-drills, going both ways on it, besides putting up a rise to connect with a winze sunk from No. 5 level. On No. 9 level east developments have also been of great interest in proving a large tonnage of high-grade stone lying in a position closely resembling a coal-measure. No alterations of importance have been made in the equipment on surface at the mine, with the exception of the engine at the old shaft, which is in readiness to be transferred on to a new concrete foundation prepared for it. The output of the mine for the year amounted to 55,976 tons of quartz. This quartz was transported by the aerial tram, and reduced at the battery, yielding 21,123 oz. 8 dwt. 13 gr. of bullion by amalgamation, valued at £87,887 15s. 8d. 990 tons of concentrates was produced and treated, yielding 3,269 oz. 6 dwt. 13 gr. of bullion, of the value of £13,367 0s. 3d. At the cyanide plant 16,422 tons of sand has been treated during the year. For