

core. On surface the equipment at the mine has not undergone any material alterations, and all the machinery has been maintained in a thorough state of efficiency. At the battery, the only alterations of importance consist of an additional 25-ft.-diameter treatment-tank which has been erected, making in all fourteen tanks of equal size. During the year the sixty-five-stamp mill ran 303·73 days, leaving only 8·27 days lost time for the whole year, to include all incidental stoppages, such as monthly clean-ups, daily scrapes, &c. The tonnage crushed exceeds that of any previous year by 2,794 tons. The 59,908 tons crushed yielded bullion by amalgamation to the value of £88,641 15s. 3d., equal to 7 dwt. 3·93 gr. per ton. 1,093 tons of concentrates were treated in the chlorination-works, yielding 2,750 oz. 14 dwt. 5 gr. of gold, valued at £11,020 7s. 7d. At the cyanide-works, 31,735 tons of coarser sands were treated, yielding bullion to the value of £8,674 18s. 5d. The treatment-cost amounted to 2s. 1·777d. per ton, and the profit to 3s. 3·828d. per ton, making the yield equal to 5s. 5·605d. During the year a certain amount of pyritic slimes has been shipped to the smelter—these realised £2,034 1s. 7d. A general summary of the aggregate working-cost, yield, and resulting profit in milling 59,908 tons and cyaniding 31,735 tons during the year 1904, is as follows: Total working-cost (exclusive of capital and development expenditure)—Incurred in mining, transporting, milling, and concentrating, and chlorinating (including bullion charges and office and general expenses), £48,671 19s. 3d., or 16s. 2·987d. per ton milled; cyaniding, £3,408 10s., or 1s. 1·655d. per ton milled; total, £52,080 9s. 3d., or 17s. 4·642d. per ton milled. Profit—mining, transporting, milling, and concentrating, and chlorinating, including bullion charges and office and general expenses, £53,024 5s. 2d., or 17s. 8·423d. per ton milled; cyaniding, £5,266 8s. 5d., or 1s. 9·098d. per ton milled: total, £58,290 13s. 7d., or 19s. 5·521d. per ton milled. Summary—Total working-cost, £52,080 9s. 3d., or 17s. 4·642d. per ton milled; profit, £58,290 13s. 7d., or 19s. 5·521d. per ton milled: yield, £110,371 2s. 10d., or 36s. 10·163d. per ton milled. A slightly lower-grade quartz has been milled during 1904 than previously, and this will probably again be the case in 1905, otherwise we look forward again to another successful year. The same policy will be pursued with regard to the underground work, viz.—to push the mine-development energetically. The main shaft will also be sunk to another level during the year.

*Wealth of Nations.*—Stopping has been carried out on levels 2, 3, 4, 5, and 6, whereby all the quartz has been taken from levels 4 and 5. The reserves of mill-rock in the mine now being confined to levels Nos. 3 and 6, and the new level No. 7 opened from the Energetic shaft. During the year 12,748 tons of quartz was crushed yielding bullion to the value of £14,666 16s. 8d., or 5 dwt. 16·92 gr. per ton. The concentrates and slimes were shipped to the smelter, realising £1,068 5s. 3d. At the cyanide-works 8,710 tons representing 69·803 per cent. of the total crushed, yielded bullion to the value of £5,941 5s. 1d. The working-cost for the year amounted to 16s. 4·890d. per ton milled; this figure includes mining, milling, and concentrating, cyaniding, assay office, and bullion and general charges.

*Energetic Mine.*—A large amount of development-work has been done in this mine during the period under review. The reef system was encountered at 267 ft. from the shaft, and drives were put out 45 ft. to the north and 698 ft. to the south. In the north drive a rise was laid off to connect to the winze sunk from the level above this, and it was when this connection was being made that the sad accident occurred which resulted in the death of three men who were poisoned by the gas liberated from the stagnant water in the winze when the connection was made. This level on the whole was a great disappointment, as only a small amount of quartz was opened up, and even that was of low-grade quality. Diamond Drilling: Four diamond-drill holes were run out from No. 7 level, hoping to locate a parallel ore-body. Three were productive of no result; the other located a small band of stone, and a crosscut is now being driven to intercept it. Shaft: The Energetic shaft was let on contract during October to sink it down to No. 8 level, a distance of 125 ft. This was finished during February, 1905, when a start was at once made to open out No. 8 level at a depth of 1,502·5 ft. from the surface. On surface: A direct-coupled Tangye winding-engine started to hoist from the bottom of the shaft in March last, and has since run in a satisfactory manner. A small electric-light plant was installed, which efficiently lights the surface and the chambers at the different levels.

*Golden Fleece.*—The shaft has not been sunk during the year, but a very considerable amount of development-work has been done in levels Nos. 11, 12, and 13, all of which have been extended north. In all 1,539½ ft. of development-work was undertaken. The stopes have fully maintained their previous characteristics, proving the reef itself to be very irregular in width, thereby making stopping a very expensive item. The shaft is again about to be sunk from No. 13 to No. 14 level, a vertical distance of 125 ft. During the year 12,930 tons of quartz was crushed, yielding bullion by amalgamation to the value of £21,040 17s. 6d. The concentrates and slimes were all shipped to the smelter, and realised £1,940 3s. 7d. Cyanide: 8,610 tons of sands, representing 66·589 per cent. of the tonnage milled, was cyanided yielding bullion to the value of £3,011 7s. 5d., equal to a return of 6s. 11·941d. per ton treated.

*Welcome Group.*—The Welcome Mine was let on tribute to O'Leary and party for a term of three years from the latter end of the year 1903. They continued to work this property until May, 1904, when, although very handsome inducements were offered to them in the shape of a subsidy on future development-work done by them, they abandoned the tribute. Up to this time they had milled 382 tons of quartz for a return of 435 oz. 14 dwt. 21 gr. of gold, valued at £1,726 15s. 9d.; besides which 225 tons of tailings was treated, yielding bullion to the value of £396 4s. 4d. The company did some more development-work after the tributers abandoned, and then obtained six months' protection to enable the wishes of the London office to be consulted.

*New Scotia Gold-mining Company (Limited), (Merrijigs).*—The system of work determined upon at the end of 1903, that is, the removal of the winding plant and engine from the old Drake main shaft to Martin's winze, was carried into effect early in this year. The whole of the above plant was reinstalled there and placed in good working-order. In the middle of April sinking was again resumed on the lode from this winze, and continued until a total depth of 123 ft. was reached. The reef continued to improve in width as greater depth was attained. For the full distance it averaged from 2 ft. 6 in. to 3 ft.