

It has been decided, in view of the hardness of ore in the mine, to install rock-drilling machines. The plant is on order, and consists of a 110 h.p. impulse turbine running at 500 r.p.m. direct-coupled to a three-phase A.C. generator, also a "Brotherhood" compressor coupled to a 70 h.p. motor. The scheme is to bring in water under a head of 150 ft., generate electricity at the intake of the present water-race, and transmit it by cable to the mine, distant one mile and a quarter, where the motor and compressor will be situated. The new race is nearing completion. All concentrates have hitherto been shipped for treatment, but this was found to be a costly process owing to inadequate access to the mine. It was deemed advisable, for this reason, to erect equipment and treat the concentrates at the mine, and steps have therefore been taken to obtain and install a roaster, of the four-panel Edwards type, which should soon be in commission. Further improvements have been made in the matter of the saving of fine concentrates by the erection of additional canvas-covered tables. Diminished ore-supplies (owing to its hard nature) led to slackened time being worked at the mill, there being 4,426 tons treated for a yield of 4,030 oz. 19 dwt. of gold, valued at £28,103 9s. 3d., of which 2,485 oz. 5 dwt. was obtained by amalgamation, 967 oz. 4 dwt. by cyanidation, and 575 oz. 9 dwt. by the treatment of concentrates. The total yield of gold since the commencement of operations amounts to 22,383 oz. 1 dwt., valued at £113,723 10s. 7d.

Wealth of Nations Battery.—A. P. Watson, superintendent, and three men employed. The cyaniding of residues and the cleaning of amalgamating-plates only has been resorted to at this plant, the resultant gain being 91 oz. 5 dwt. of gold, valued at £797 8s. 4d. The total quantity of gold produced by the company amounts to 370,795 oz. 2 dwt. 2 gr. valued at £1,484,691 4s. 6d.

Murray Creek Mine.—R. A. Rutherford, manager, and eleven men employed. Operations at this mine (idle for a lengthy period), were resumed early in the year, and consist generally of repair work to the head gear, shaft, and levels. The battery has been reconditioned also, and there are possibilities of the property becoming a gold-producer during the coming year.

Big River Mine.—T. Thomson, manager, and twenty-five men employed. Work, chiefly development, has been confined to Nos. 2 and 3 levels, and several small blocks of payable stone (in faulted country), have been successfully extracted. It is proposed to repair the shaft down to No. 4 and recondition that level with the object of looking for, and perhaps locating, downward extensions of the ore exploited on No. 3 level. The battery crushed 1,520 tons of ore for a yield of 828 oz. 7 dwt. of gold, of which 772 oz. 3 dwt. was obtained by amalgamation, and 56 oz. 4 dwt. by cyanidation, the value of the whole recovery being £6,030 4s. 1d. These figures represent the total yield and value of the gold produced since the recommencement of work.

Homer Mine.—D. Absalom, manager, and two men employed. Development work in this mine was confined to No. 2 level, and consists of driving for a distance of 60 ft., all on stone having an average width of 3 ft. 6 in. A considerable amount of surface prospecting has been carried out, and it is stated that this resulted in the locating of a promising-looking lode 5 ft. wide, which is situate at a distance of 45 chains south of the mine-workings. The battery crushed 48 tons of ore for a yield of 21 oz. 6 dwt. 9 gr. of gold, valued at £123 12s. 10d. The gold was obtained by amalgamation alone. The yield of gold since the commencement of operations amounts to 162 oz. 3 dwt. 9 gr., valued at £791 3s. 6d.

Westland County.

Mount Greenland Mine.—W. O. Bierwirth, manager, and six men employed. Development work at this mine has been carried out to the east, No. 2 level, on a payable reef (said to be 15 ft. wide), for a considerable distance. Driving work is in progress. The battery crushed 488 tons of ore for a yield of 377 oz. 11 dwt. of gold, worth £1,887 15s. The total yield of gold since the commencement of operations amounts to 3,186 oz. 17 dwt. 5 gr., valued at £13,197 2s. 3d.

DREDGING.

Mataki Dredge, Murchison County.—T. B. Gillooly, dredgemaster, and fifteen men employed. This is a steam-operated dredge that started work on 18th August, and has continued to work over three eight-hour shifts daily for the remaining portion of the period. The effective dredging-time was 2,196 hours, and the quantity of gravels treated amounted to 183,927 cubic yards, the yield being 530 oz. 9 dwt. 8 gr. of gold, valued at £3,421 9s.

Brian Boru Dredge, Grey County.—N. Curnow, dredgemaster, and twenty men employed. This is an electrically-operated dredge that was commissioned during the early part of the year, and has treated since that date some 350,860 cubic yards of gravels, which gave a yield of 1,000 oz. of gold, worth £7,211 10s. 10d.

Rimu Dredge, Westland County.—F. B. Lewis, dredgemaster, and forty-five men employed. This dredge operated for a total of 6,570 hours 41 minutes, or 88.9 per cent. of the possible digging period, and during this time a superficial area containing 2,948,789 cubic yards of gravels, and having an average depth of 44 ft., was turned over. The material was treated at an average rate of 449 cubic yards per digging-hour. The yardage handled during the year was treated at an average cost of 4.92d. per cubic yard, which figure includes depreciation, overhead, and all operating-expenses. The average rate of digging was increased during the year by 39 cubic yards per digging-hour. This was accomplished by speeding up the bucket-line travel from 63 ft. to 72 ft. per minute, also by changes in both bucket and lip design so as to increase capacity, the new assembly now holding 12 cubic feet by wet-sand measurement. The result of the above-described changes has been reflected in an increased quantity of 168,772 cubic yards of gravels being treated for the year, and this amount would have been added to were it not for a ten-day shut-down, due to the destruction of a section of the power-plant flume by abnormally high flood-waters in the latter part of January. The end of the year finds the dredge in first-class running-condition, which, together with an ample supply of replacement and repair part requirements on hand, presages a smooth and continuous operation for the coming period. The yield of gold for the year amounted to 14,673 oz., having a New Zealand value of £110,671 3s. 11d., and representing a gravel value of 9.01d. per cubic yard, based on the ruling price of gold at the time of sale. The total yield of gold since the commencement of operations amounts to 141,395 oz., valued at £677,614 9s.

Okarito Five Mile Beach Dredge, Westland County.—D. Mitchell, dredgemaster, and eleven men employed. The dredge worked almost continuously throughout the year, and was unfortunate in meeting with some ground that had been exploited by the early miners. Operations revealed that they had stacked numerous heaps of heavy stones on the floor of their excavations, and the dredging of these (there was no other course open), somewhat handicapped work, there being no screening apparatus on the dredge. The turning over of this previously-treated ground affected recoveries also. The matter of installing screening equipment on the dredge has been tentatively discussed, and arrangements, in addition, have been made to straighten the water-supply pipe-line, which should result in giving increased working-pressures. 3,941 oz. 15 dwt. of gold, worth £25,637, was recovered from the treatment of 371,605 cubic yards of material during the year. The total recovery to date amounts to 8,403 oz. 18 dwt., valued at £50,453 6s. 3d.

ALLUVIAL MINING.

Mahakipawa Mine.—Mr. K. M. Barrance, manager, and twenty-six men employed. Development work at this mine has been carried out both to the north and to the south of the shaft crosscut, and consists, in all, of 615 ft. of driving and of 883 ft. of crosscutting. From No. 11 east crosscut (to the south), a drive was put out a distance of 40 ft. when it was turned to the north so as to connect with No. 9 east crosscut. A blocking