

bottom giving values of £1 12s. over a width of 24 in. No. 2 winze was sunk from the outcrop 100 ft. south of No. 1 winze, and followed the reef down for 27 ft., where sinking has been suspended, with good stone showing in the bottom. The reef has an average width of 36 in. and gives average values of £3 18s. 6d. per ton. Mullocky Creek block: On No. 1 level a crosscut put out 26 ft. back from the face in the east wall was advanced 16 ft. in country rock, when driving was suspended as nothing of importance had been got. On No. 2 level the main crosscut was extended to a total distance of 240 ft. from the surface. A reef formation, 36 in. wide, carrying two 4 in. stringers, was intercepted at the face. This may possibly prove to be the northern end of Downey's reef which shows strongly at the surface. A reef-track, encountered at 136 ft. from the surface, was followed south for 145 ft. with unsatisfactory results, the average width of quartz being less than 12 in., with poor values. Battery: The erection of 60 chains of aerial tramway from the hopper at No. 3 level (McVicar's block, 2,140 ft.), to the mill (1,150 ft.), was finished in May. This work coincided with the completion of a new ten-head battery and cyanide plant. Crushing was started about the middle of June, and since that date 2,871 tons of ore have been crushed for a yield of 1,817 oz. of gold, of which 1,579 oz. were obtained by amalgamation and 238 oz. by cyanidation, the value of the whole being £7,688 13s. 3d. No provision has yet been made for cyaniding the slimes, which are at present run to waste. The construction of a tram-line linking the battery and McKay block of ore is receiving the company's attention. Consideration is also being given to the erection of a small compressed-air plant, with a view to installing and operating rock power-drills, as the reef systems now being worked are much harder than those formerly exploited. An average of twenty-seven men was employed throughout the year.

New Big River Mine.—This mine has remained idle for the year. It is, however, expected that a limited resumption of operations will take place during the coming period, as negotiations are in progress to provide finance sufficient to cover such work. The programme submitted consists of prospecting operations, which are to be undertaken in connection with a block of stone located on No. 2 level. Some other reef matter lying closely adjacent thereto is to be tested also.

Murray Creek Mine.—A considerable amount of development work having been carried out, operations were resumed on the upper levels during the early part of the year and continued until July, when they were suspended as the stone being crushed failed to show a profit. This unsatisfactory state of affairs was probably largely due to the small tonnage treated and the inefficiency of the mill. 616 tons of ore was crushed during the period worked, the yield in gold being 154 oz. 17 dwt. by amalgamation and 18 oz. 10 dwt. by cyanidation, worth £608 19s. 1d. and £52 5s. 4d. respectively. An average of eight men was employed.

Westport District.

Britannia Mine.—Very little work was done on this company's property during the year. A rise was put up to a height of 45 ft., and a drive extended for a distance of 27 ft., both on No. 1 level; this was all the development work for the year. The mill commenced to crush during May, only to cease after a short run, as ore-values fell considerably below what was expected. The stone treated amounted to 98 tons, from which 19 oz. 11 dwt. of gold were obtained, valued at £76 15s. 4d. Earthquake shocks in June caused damage to the aerial ropeways and bins, and in the mine, necessitating the expenditure of moderate sums on work incidental to restoration. No. 2 level, insecure and partly closed previous to the earthquake, collapsed altogether, and remains closed, locking in, from reports made, a fair-sized block of stone. An average of five men was employed until August, when all work was suspended owing to shortage of finance.

DREDGES.

Rimu Flat Dredge.—This company's 10-cubic-foot dredge operated continuously throughout the year, a short period in February excepted during which time some very necessary repairs were effected. Actual dredging covered 310 working-days, or 6,390 hours out of 7,440, representing 85.9 of the possible digging-time. The dredge treated a total of 2,065,567 cubic yards of gravel from an area of 33.25 acres, and an average depth of 38.4 ft. From this material 11,500 ounces troy of gold, having a gross value of £46,970, were extracted, showing an average gravel value of 5.46d. per cubic yard. The gold content of the gravel throughout the year, as was to be expected from previous boring results, has been generally low. Indications are that the 1930 operations should yield a higher return per cubic yard. The company's Keystone drill was kept in constant use throughout the year, drilling being confined to the area in the immediate proximity of the dredge; the results obtained from the boring were used as a digging guide. Repairs and replacements incidental to the dredge's upkeep were made from time to time with no serious delay to operations. The process of digging has been a practically continuous one, neither breakdown nor mishap of a serious nature occurring. The plant was closed down in February for two weeks, during which time the digging-ladder was thoroughly overhauled and strengthened; the main longitudinal angles at the lower end were taken out and replaced by new and heavier ones, and new wearing-plates, together with reinforcing I beams, were built into the under side of the lower end to protect the ladder against undue wear from the buckets. The company definitely decided during the year to reconstruct the present dredge, replacing the pontoons and superstructure (both wooden) with an all-steel construction, and to replace many of the machine parts with a more powerful and efficient installation. The plans and specifications for the reconstruction work have been completed, and tenders are now being called. The reconstruction programme will involve the purchasing, fabrication, and erection of 800 tons of structural steel at an estimated expenditure of £40,000, all of which will be handled through New Zealand firms. The reconstructed dredge, when completed, will be larger and better equipped, and will have an increased capacity over that of the present dredge, thereby enabling it to treat at a profit gravel having a lower gold content than that at present worked. An average of fifty men was employed throughout the year.

Terrace Gold Dredge (New River).—This dredge, idle for some time on account of structural alterations, resumed operations on the 23rd March to cease again on the 15th July after an unsatisfactory run. The quantity of gravel treated for the period worked was 147,000 cubic yards, and from this amount a total of 616 oz. 15 dwt. of gold was obtained, worth £2,447. This represents a gold content of practically 3.9d. per cubic yard, a value considerably below requirements, and one probably falling a good deal short of the company's expectation. Subsequent to closing down several boreholes put down on the area failed to show any improvement as regards values, and it was therefore decided to suspend operations permanently; the company afterwards went into voluntary liquidation, and has since been wound up. An average of eight men was employed during the time the dredge worked.

Okarito Five-mile Beach Gold-dredging Co., Ltd.—The following is a general account covering the year's preparatory operations: Two and a half miles of 15 in. and 13 in. by 12-gauge iron pipes were delivered at Okarito Township by motor-lorries, and carted thence to the claim on wheeled sledges over a very indifferent road five miles in length. From the claim they were conveyed on a punt, towed by motor-boat, across the Five-mile lagoon for a distance of nearly two miles, and landed alongside a corduroyed roadway made through heavy bush over a length of two and a half miles. This roadway connects with Lake Alpine, from which the water-supply for working the claim is to be drawn. The machinery for the dredge has been delivered at Okarito by lorries, and waits to be sleighed to the claim later. A sawmill erected on the property has been cutting timber (silver-pine and rimu heart) out of which the dredge pontoons are being constructed. The dimensions of the pontoons are—length, 100 ft.; breadth, 29 ft.; and depth, 6 ft. The capacity of buckets is 4½ cubic feet. The dredge is to be operated hydraulically, and the water, after leaving the Pelton wheels, will pass on to the tables, thus ensuring constant supplies for gold-saving purposes. Lake Alpine is situated