

No. 16.

Mr. JOHN HAYES, Inspector of Mines, to the UNDER-SECRETARY for MINES, Wellington.
SIR,— Office of Inspector of Mines (Southern District), Dunedin, 26th April, 1899.

I have the honour to present the following report on the gold-mines visited during the year ending the 31st March, 1899:—

QUARTZ-MINES.

Barewood Reefs, Barewood.—(8/12/98): On visiting this property, I found the operations had been stopped by the exploiting syndicate (the Anglo-Continental and the London and New Zealand Exploration Companies jointly), and that the plant was being dismantled prior to its sale. A considerable amount of work has been done and money spent without finding anything sufficiently good to warrant further development. As stated in my last report, three shafts were being sunk in a line parallel to the line of reef, and a tunnel driven from the Taieri River Gorge. The latter was (approximately) 300 ft. in when stopped. No. 1 shaft was sunk some 200 ft., and a cross-drive driven to cut the reef, but, after being continued to beyond the perpendicular line of reef at surface, failed to meet with any quartz. This crosscut, however, crossed well-defined walls filled in between with angular pieces of country rock and mullock. This "lode-track" was driven on in a southerly direction for nearly a chain, when an extra quantity of water was tapped, which eventually overpowered the two pumps. Up to this one pump could effectually deal with the water. When it was found that the water was too much for the pumps, the work was stopped. No. 2 shaft was sunk to nearly 200 ft., and a crosscut driven in a similar manner to that at No. 1 shaft without finding any reef. Two walls, with mullock filling, were cut through at some 40 ft. from the shaft, and a drive put in northwards for, say, three-quarters of a chain without finding any quartz. Both in the shaft and crosscut the country rock was very hard, and the water less than in either of the other shafts. No. 3 (or Scott's Gully) shaft had just passed through 7 ft. of reef at my previous visit, at a depth of 150 ft. The shaft was continued to over 200 ft., and at the 200 ft. level the reef was cut a few yards to the east of the shaft, where there is a large body of stone which maintains its width to where work was stopped on the south side. Going north the reef decreases in width, and was only some 8 in. wide at the face when operations ceased. Some 80 ft. above this level the reef was also driven on in both north and south directions, and maintained an average width of over 4 ft. The best quartz was found on the hanging-wall side. A good quantity of water was met with at the 200 ft. level. From time to time 53 tons of quartz was crushed, and yielded 10 oz. of gold.

Canada Reefs, viâ Milton.—(2/12/98): Messrs. Lawson, Ritchie, and Andrew have a claim here of 80 acres, which has been let on tribute for a term of three years to Mr. W. G. Mouatt, late underground manager at Achilles Mine, Bullendale. There are three lines of reef, known as Ocean View, Canada, and Lawson's. The first-named two were worked about twenty-five years ago to some extent, and are said to have yielded fairly good returns. Some years ago a low-level adit was driven, the object being to cut the Ocean View Reef at a distance of 700 ft. from the adit mouth. Owing to a disagreement among the then holders, this distance was not accomplished and the place was abandoned. Subsequently Lawson and party drove a crosscut from the face of the adit (600 ft. from mouth). This crosscut was driven 200 ft., passing through lode-formation carrying a trace of gold, but not finding any defined reef. This place is not now at work. Present operations consist of an adit-level (near the top of the hill) on the Ocean View Reef, which will gain about 125 ft. of backs, and a small shaft, which will be connected with this adit. This shaft is 60 ft. deep; levels have been commenced on each side, that on the west side being 35 ft. in, the reef varying from 1 ft. 6 in. to 4 ft., carrying payable gold; on the east side the level is 60 ft. in, and the reef 2 ft. 6 in. wide, carrying fair gold. To my mind, this side looks as though it will maintain greater permanence than the other. The reef is nearly vertical, and the shaft described is some 400 ft. higher than the low-level adit. It is proposed to sink a trial shaft on the Canada Reef, which, where it has been worked at surface, shows a width of from 4 ft. to 6 ft. as a rule. A ten-head battery has been erected at the mouth of the low-level adit, and a self-acting incline constructed to bring the stone down from the upper adit and shaft. It is expected that crushing operations will commence early in the new year. Water rights are held by the party for twelve heads of water from a tributary to the Waipori River, and a pressure due to a vertical height of 400 ft. is available to drive the Pelton wheel at the battery. Twelve men are employed at present. It is expected this number will be doubled when the place has got fairly to work.

O.P.Q. Gold-mines, Waipori (C. Rillstone, provisional manager).—(9/11/98): Since my last visit, work appears to have been pushed forward with a good deal of energy. The main shaft, 12 ft. 6 in. by 4 ft., has been sunk to a depth of 220 ft., a new Roby "Undertype" mining-engine, with winding and pumping gear, set to work, head gear (poppet-heads) erected and fitted with safety-cages and detaching-hooks. The pump is 9 ft. diameter by 5 ft. stroke, both lift and force. At present the lifting-set only is in use in connection with the sinking, and one cage in use for lowering the men to a platform at 200 ft. and raising them to the surface. The *débris* from the sinkers is raised in a bucket in a separate compartment. A lot of new plant is on the ground, ready for use as soon as required. It is proposed to cross-cut the reef at 300 ft. deep. As stated in my last report, two tunnels were being driven on the line of reef. These have been continued, and are now in 940 ft. and 1,120 ft. respectively. From this latter tunnel a crosscut (east) is being driven to the new shaft, and will form an adit for water. This crosscut passes right through an old shaft which has been cleaned out for ventilation. Owing to the fact that the first-mentioned (and shorter) tunnel starts from the surface at a considerable distance further up the gully than the other one, it is really leading by about 800 ft., the vertical distance between the two tunnels giving the lower and longer one about 80 ft. of backs. The line of reef is approximately north and south, and very patchy so far as seen. From the upper tunnel a cross-