

## ROAD TO OPEN UP MINES OTHER THAN GOLD.

**NELSON.**—*Road to Champion Copper Mine.*—This is a road through the Aniseed Valley to the Champion Copper Company's machine site on one of the branches of the Roding River. About eleven miles of this road is in course of construction, and will cost, when completed, exclusive of inspection and engineering, about £4,165. The Champion Copper Company pays one-third the cost of this work.

*Track, Richmond to Copper Mine.*—This track is being laid out, and when survey is completed tenders will be called for its formation, which is estimated to cost £244 10s. Of this amount the Government pays £100.

**CANTERBURY.**—*Road to Wilberforce Quartz Reefs.*—This road is to enable the quartz reefs in this locality to be worked; but, so far, they have not proved very encouraging; £12 have been spent on the work, and when completed it is estimated to cost £1000.

## PROSPECTING.

The companies and associations that have been subsidized for prospecting during the year have been as follows:—

**THAMES.**—*Queen of Beauty Company.*—This company has the deepest shaft in the Thames district, and is the deepest under sea-level that there is in the colony, being about 707 feet under high water-mark. The amount authorised as subsidy to this company is £150, of which £75 have been paid.

*Caledonian Low Level Company.*—This company are driving a tunnel from the Big Pump shaft at the 640-feet level to prospect the deep levels. The amount of the subsidy authorised is £150, of which £75 have been paid.

**INANGAHUA.**—*Deep Level Tunnel Reefton.*—This tunnel is being driven from Black's Point in the direction of the Waitahu River. It is now constructed for 1,715 feet. The total amount of subsidies authorized on pound for pound principle is £3,450, out of which £1,830 have been paid. There are several other prospecting works for which subsidies have been authorized, but as no more of these have yet been undertaken I will not refer to them, as they are shown in the list of works subsidized by the Mines Department.

## SLUDGE-CHANNELS AND TAIL RACES.

**OTAGO.**—*Smith's Gully Sludge-channel, Bannockburn.*—This work was commenced by a company to bring up a channel from the fall into Bannockburn to the head of Smith's Gully, for the purpose of working the bed of the gully and the adjacent auriferous ground on the terraces, after constructing about 20 chains of this channel the company abandoned it, or have at least done no work for over twelve months. The subsidy authorized to this company was £800, which they were to be paid in instalments according as the work progressed. The amount of subsidy paid has been £251, and the balance can be cancelled, as the work is not progressing.

*Pipe Clay Gully Sludge-channel.*—This is a channel that is being constructed from the bank of the Kawarau River to the head of Pipe Clay Gully, and ought to be completed in about twelve months. This channel was commenced about five years ago, and when completed will be a little over a mile in length, it is constructed 6 feet wide in the bottom, and about 3 feet high on the sides, having a fall or inclination of about 1 in 18. The sides of the channel are lined with stones, and the bottom has stone paving. The total amount of subsidies authorized for the completion of this work is £400, of which £218 have been paid.

*Tail-Race, Ophir.*—This is for extending and deepening the present tail-race from the Manuherikia River to a large flat which was originally known as Black's. The ground here is extremely wet, and although holes have been put down and gold found in some of them, the quantity of water to contend with was too much to allow the ground to be worked. A tail-race is therefore being constructed to enable this ground to be prospected, as it is considered by the old residents here that the lead which was lost in the early days on Black's diggings comes down through this flat. A subsidy of pound for pound was authorized for this work, and it is estimated to cost when completed about £1,500.

*Sludge-channel, Round Hill.*—It is the unanimous opinion of the miners residing about Round Hill that if a sludge channel could be constructed with sufficient fall to carry away the sludge there is a large quantity of ground could be worked that would pay very remuneratively. A survey was therefore made to ascertain if this fall could be obtained. The total length of channel was found to be 2 miles 79 chains, and the total fall that could be got was 44 feet 6 inches, or about  $2\frac{1}{4}$  inches to the chain, which is only sufficient to carry away thick muddy water. The expenditure on this work has been about £50.

*Sludge-channel, Muddy Creek, St. Bathans.*—This may be termed the most gigantic sludge-channel that has yet been constructed in the colony. It is from 3 to 4 miles in length, 12 feet wide in the bottom, paved with stones, and 3 to 4 feet high on the sides. Portions of the sides are lined with stone, and portions with scrub. The amount of subsidy authorised on the completion of this work is £500. Of this amount £150 have been paid. This channel was first undertaken about eleven years ago, but the first company, after spending about £4,000 on the work, failed; and the present company took it up, and has been steadily constructing it for the last three and a half years. It has cost up to the present time about £10,000. It is constructed on a grade or inclination of 1 in 60 at the upper end, and 1 in 80 at the lower end. At the place where the grade changes there is a low level head-race brought in from the Manuherikia River, capable of carrying about fifteen sluice heads of water, that is to be used as a flushing-race to prevent the tailings accumulating in the channel at the change of grade. This channel will soon be completed up to the different companies leases that it is intended to be worked, but each company has yet a large undertaking to complete a tail-race through their own ground to the scene of their operations. Some of these companies are pending the completion of the channel and tail-races, working the ground on the