

The average total cost per ton for the year ending 31st December, 1894, was £1 8s. 2·62d. which sum represented the cost from the mine to the bullion.

The difference in the cost per ton from the former calculation is owing to freight-charges on bullion, &c., with gold duty and expenses of London office being included, whereas the £1 8s. 2·62d. is the total cost of producing the bullion in the colony.

Since the company has commenced to treat the whole of the ore by cyanide solutions a forty-mesh screen has been used instead of a sixty-mesh, as was necessary for pan-amalgamation; in some instances only a thirty-mesh screen is used. By this means the quantity of ore crushed has risen about 30 per cent., the average duty per stamp being 1·14 tons per day for 1894 as against 0·93 tons for 1893.

The average percentage of the bullion extracted from the ore by the cyanide process has been 91·07 per cent. of the gold, and 47·9 per cent. of the silver, whereas by the old process in 1890 only 64·1 per cent. of the gold and 30·9 per cent. of the silver was saved, which shows that by improved appliances a saving of 26·9 per cent. of the gold and 17 per cent. of the silver is now effected which formerly was run into the tailings-heap.

In the directors' report it is stated that a new and separate company will shortly be organized for the purpose of developing two special claims lately granted to the company, and, after providing the necessary working capital for working the mine, the remainder of the shares will be the property of the Waihi Company, and that their shareholders will have a preferential claim to allotment.

This company has a very valuable mining property; the lodes contain better ore than was found on the upper levels, and from the present appearance of the mine the main lode is likely to go down to a very considerable depth, and there is a probability that a parallel lode will be found not yet discovered.

*Waihi-Silverton.*—This was formerly known as the Silverton Mine, which has recently been floated as a company in Glasgow by Mr. Melville, the late representative of the Cassel Company in this colony. Some very rich ore was obtained from this mine in sinking a winze under the level; but the quantity of water became too great to carry on mining operations profitably. About three years ago a commencement was made to construct a new level, but this was abandoned after it was in for some distance. It would have opened the lode on the southern end, but it would not have been of much use to work the rich stone in the winze. The mine is now to be opened out from a shaft. A contract was let for sinking this to a depth of 150ft; but only about 110ft. was completed, as the water became too heavy for the appliances used by the contractors for contending with it. This shaft is 11ft. by 3ft. 8in., and is divided into three compartments—namely, two for winding and one for a pump column.

The sinking is, for the most part, through a hard country; but near the bottom a kindlier country-rock is met with. It was the intention of the company to cross-cut to the lode at a depth of 140ft., which would necessitate about 180ft. of driving; thence continue a level on the lode following the rich shoot of gold-bearing stone under the winze.

The Silverton Company had a crushing-battery at the side of the Ohinemuri River, which formerly belonged to the Martha Company; but it is one of the very old type, and not suitable for dry-crushing. Mr. Adams, the manager, who was formerly at Waiorongomai, has now received instructions to prepare plans and specifications and call tenders for a reduction plant of twenty heads of stamps, together with a complete cyanide plant, and tables covered with copper-plates coated with quicksilver.

An engine and pumping plant is also to be erected; but the present shaft is too small for winding and pumping, and a commencement will be made to enlarge it as soon as the water is pumped out. Recently the company has purchased the engine and boiler which formerly belonged to the Red Mercury Company at Kuaotunu, and intend to use it for pumping.

Mr. Adams, after taking charge of this mine, is stated to have reported to the directors that a pumping plant was required capable of going down to a depth of 2,000ft., and suggested the Cornish system of plungers and draw-lift, to be worked with a horizontal steam-engine, the pumps to have a stroke of 3ft. up to 7ft. For the winding plant he recommends a double-cylinder engine of the latest type; also two multitubular boilers sufficiently large so that either of them will furnish steam for both engines. From this it is presumed that when he mentions pumping and winding to 2,000ft., he does not mean the plant he recommends at present to go to that depth, but only to serve for the present time, as he estimates the whole cost of this at only £4,150, erected at the mine, which would be wholly inadequate for a pumping and winding plant, and especially where large quantities of water are to be contended with, at a depth of 2,000ft.

*Grand Junction.*—This mine is situate between the Waihi and Silverton Mines, it being in the valley on the eastern boundary of the Waihi Mine. This valley is filled up with rhyolitic material, and the question which had to be determined was the depth of this deposit. Mr. Walker, the manager, went to London and floated a company to work this mine, and brought out a diamond-drill plant capable of boring to a depth of 2,000ft. On the 6th of April last he had got the bore down to a distance of 206ft. For the first 21ft. the bore was in alluvial soil, which was resting on about 1ft. of rhyolitic rock, under which there was 71ft. of whitish clay, resting on coarse sandy material; but Mr. Walker states that for the last 19ft. the bore is in a similar sandstone country to that which encloses the Martha Reef. If this is the case, Mr. Walker is likely to meet with success. The strike of the Martha is to the south-east, and if the lode has not been denuded in a very deep gut in the valley referred to, which now seems improbable, it is bound to go through the Grand Junction ground. But, although the lode may do so, the question of the shot of gold-bearing stone will remain a problem until it is cut in this company's holding.