water, and therefore will do much more work. The tail-race from the face where the two nozzles are at work is 3ft. wide in the bottom and about 2ft. deep, while the other tail-race is only 2ft. wide; both of which are paved, partly with wooden blocks 8in. thick, and partly with old iron rails and hematite-iron blocks. The wooden blocks last about three months; but there are very few stones in the wash-dirt, and these are of a very soft nature. Both tail-races have grizzles at the sides, covered with coir matting, for saving the fine gold. The faces of the workings are about 300ft. high, and have a little gold distributed all through the dirt. With a large supply of water, and taking the quantity of gold that is being obtained at present, the ground ought to be made to pay handsome dividends; but still, it is very questionable if ever it will pay a large percentage on the capital of the company, which is £150,000, of which £77,000 is declared paid up, leaving the actual capital of the present company £73,000. But the present company was re-formed after the works were in course of construction, the previous company having paid up £10,125; so that it may be said that the real capital is £83,125, of which £64,695 is paid up, leaving an available capital for the extension of works of £18,430. The present company commenced mining operations in June, 1885, and since that date have obtained gold to the value of £3,318, while the expenditure on wages on the mine, including the cost of opening out and constructing tail-races, has been £3,221 5s. 7d.; which shows a very satisfactory result, considering the limited supply of water that they at present have. The gold obtained by the old company was 62oz. 10dwt., representing a value of £240 1s. 5d.; thus making the total value of gold obtained from the mine £3,558 1s. 5d. This company has been now steadily sluicing for about six months; and the total quantity of gold obtained from the ground, including getting the claim in order, is about 935oz. The last washing-up gave about 300oz. There are sixteen men employed, working in two shifts of eight hours each.

Rangitoto Silver-mine.—This mine is situated at the side of Mine Creek, about 1,700ft. above sea-level, on the Mount Rangitoto Range, about eighteen miles by the road from Ross. The ore was first discovered in the side and bottom of this creek, where it is said very rich silver specimens were found; but the outcrop of the lode as now seen on the side of the creek does not contain a large percentage of silver. It is from 3in. to 6in. in thickness of solid iron-pyrites, containing gold, silver, galena, and zinc-blende, with a large proportion of arsenic and sulphur. The principal tunnels were full of water, slips having come down from the face and closed the mouths, so that I could not see the principal workings; but, from a quantity of ore that was stacked in a paddock, and from information I received from Mr. James Bevan, who accompanied me, the lode widened out to about 3ft. in thickness. The stone or ore in the paddock corresponded with this, as it was in large solid blocks, some of which were 15in. by 20in.; but here the iron-pyrites was mixed up with quartz. There has been a great deal of work done in this mine, and a number of tunnels constructed; but there seems to have been no systematic mode adopted for either working the mine or treating the ore after it was taken out. The lode or vein of iron-pyrites is dipping on an angle of about from 20° to 25°, having hard metamorphic clay-slate on top and bottom. In some places, where the lode is exposed in one of the tunnels, the pyrites is decomposed, and it appears as a vein of red oxide of iron mixed with soft quartz. It is about eight years since any work was done at this mine. The ore as it was then treated proved not payable for working; the principle adopted for treating the ore being similar to that for extracting gold from quartz. A crushing-battery of three heads of stamps is still on the ground, an amalgamating-barrel and two small buddles; but it appears that very little gold or silver could be got by this process. The company subsequently erected an open roasting-pan, made of wrought iron, about 16ft. long and 8ft. wide, to calcine the ore before crushing. The remains of this pan are still standing. I examined the tailings lying around the battery, and was surprised to find them full of quicksilver; and on washing some in an old fry-pan in a short time I collected about 20lb. of quicksilver and from 6dwt. to 8dwt. of gold and silver; so that, judging from the appearance of the treated material, the company could never have taken a great deal of gold and silver from the ore: whatever there was still remains in the tailings. The machinery and process of treatment adopted was totally unsuitable for this class of ore. The ore would require to be crushed dry by rolls or stamps, the former being preferable, and the crushed material calcined in a reverberatory furnace with a small quantity of common salt, until all the sulphur and arsenic were dispelled and the ore chlorinized; afterwards ground up in pans and amalgamated with quicksilver. This I consider the cheapest and most profitable mode of treatment. From what I have seen of the ore, and the thickness of lode as represented to me by Mr. Bevan, I think it is of a payable character for working. Mr. McLymont, assistant to Professor Black, accompanied me to this mine, and made several chemical tests of the ore, which showed to have about two parts of gold to one of silver, with traces of galena and zinc-blende. About 20 chains higher up Mine Creek there is a quartz reef from 12ft. to 16ft. wide cropping out, but it appears to be of a barren character. It is full of mica; but very little iron-pyrites is discernible. Mr. Bevan took me over the top of the mountain to see another mine, which is known as Linemann's Lease, and was represented as having given 2oz. of gold per ton; but on getting there we were greatly disappointed: there had scarcely any work been done, and the only thing that could be seen was a small vein of iron-pyrites about three-quarters of an inch in thickness. This is a portion of the country that is well worthy of prospecting, and a locality where gold, silver, tin, zinc, and copper may be found. The Silurian rocks adjoin the granite at Mine Creek, in the Rangitoto Silver-mining