

then have to depend very much on the goodwill of mine-owners for donations of ore. I do not think we should have much difficulty in getting given to us enough ore of sufficient value to cover wear-and-tear of plant and expenses of experiments. The expenses are necessarily much higher than in working on a larger scale. A much more satisfactory plan, however, would be to buy parcels of ore at a price sufficiently below the assay-value to allow a small profit on the treatment. If money for this could be provided there would be no difficulty in getting a constant supply of ore of all sorts. I am of opinion that if a sum of £100 were advanced to us for the purchase of ores for treatment, we could get enough from parcels of ore to cover all expenses, and hand back the principal, provided that the wages of our amalgamator were paid by the Government. A mass of information could thus be accumulated as to the treatment of our ores that would be, being periodically published, of the greatest service to the goldfield. While admitting that such things are far better done by private enterprise, I hope that the Government will look upon this matter in a liberal light, and show an example that will cause private enterprise to follow their footsteps, and in all probability soon relieve them of any necessity for further continuing their help.

"If the Government will provide a good amalgamator to be constantly at the experimental battery, any other assistance required could be furnished by the students. There are several now attending the school who would be glad of the opportunity of working in the battery, but who are not capable of being left there without the supervision of an experienced man. I have no time, with my other duties, to do more than direct operations, and have certainly no time to continually supervise the actual working. In a short time, however, some of the students would be able to do with very little help. In the tests that have been made an amalgamator was employed at the expense of the owners of the ore, and the students had nothing to do with these tests. This was necessary when doing work directly for the public, it being essential that a trained man should be responsible for every step in the operations; but in carrying on series of experiments as I propose to do, treating the ore at our own time and in our own way, it would be quite proper to make use of the students."

It will be seen from Mr. Montgomery's report that the average number of pupils attending the School of Mines from public schools for the twelve months ending the 31st March last was sixty, and that exclusive of public-school pupils the average for the twelve months was as follows: In the laboratory and practical-chemistry class, 16; in the architectural-drawing class, 4; in the mining class, 14; in the assaying class, 38; in the chemistry class, 6; in the mathematics class, 6; in the class for mineralogy and geology (last quarter only) 10.

In Reefton Mr. Thomas Fenton is in charge of the School of Mines; but there are not the same appliances here as there are at the Thames School; neither is the teaching carried on constant at Reefton, as at the Thames. Mr. Fenton has held classes at Nelson, Boatman's, Westport, and Denniston, which took him away for a considerable time from Reefton. The average attendance at those places was as follows: Nelson, 35; Westport, 6; Denniston, 20; Boatman's, 9; Reefton, from eight to ten regular pupils, and also several miners who wish to qualify themselves for mine-managers, and pass their examination.

Mr. Fenton has also drawn the attention of the mine-proprietors and mill-owners to the large amount of gold that is left in the tailings; and the result is that some of the companies are erecting Triumph ore-concentrators to save the pyrites. These or similar machines should have been erected long before this time to save the pyrites, but it is a very difficult matter to get those who have been for years engaged in mining and in crushing-mills to leave the groove they have been accustomed to go in. It will be interesting to tabulate the assays and value of the different companies' tailings and pyrites, from several assays made from each by Mr. Fenton.

Name of Company.				Assay of Tailings per Ton.	Assay of Pyrites per Ton.
Globe ...	...	...	...	From 3dwt. to 1oz ...	2oz. 10dwt.
Keep It Dark ...	...	...	...	From 10dwt. to 15dwt....	3oz.
Welcome ...	...	...	...	From 8dwt. to 14dwt. (These were first treated in berdans)	No assay.
Progress ...	...	...	...	No assay ...	4oz. to 5oz.
Sir Francis Drake...	...	...	...	" ...	3oz.

It will be observed from this that, although the Welcome Company are stacking all the tailings and treating them in a plant of berdans, the tailings leaving the berdans still assay from 8dwt. to 14dwt. per ton. There is nothing more certain than that the loss of gold on this field by the ordinary crushing-battery process amounts on an average to about 50 per cent., and on the North Island gold-fields, where the gold is combined with silver, and extremely finely disseminated through the quartz, very little more than 33 per cent. is obtained on an average of the precious metals where the yield does not exceed more than 1½oz. to the ton. With very rich stone, and by taking extreme care, a higher percentage may be obtained. One thing, however, is certain, that a different process of treatment will have to be adopted before anything like a fair percentage of the precious metals is saved.

The following is an extract from Mr. Fenton's report on the School of Mines on the West Coast:—

"By the direction of the Hon. the Minister of Mines I proceeded last April to Nelson, where a school had been formed. On my arrival I found the Committee had rented a good building, containing two large rooms, one for class and assay purposes and the other for a lecture-room. The class-room was fitted up with furnace, tables, had gas laid on, &c., and all complete. They had also a