

good stock of chemicals and assay-plant, which the Committee had imported from Home. I held classes and delivered lectures in this place during April and May in chemistry, assaying, blow-pipe, general mining, and metallurgy. There are a large number of subscribers to the school, and the average attendance is between thirty and forty, all of whom are most anxious to learn. I never had anything to do with a class that advanced so satisfactorily in the time as the students of the Nelson School of Mines. For this I must thank Mr. Littlejohn, of the Nelson College, Dr. Coleman, Mr. Holloway, and others, who assisted me in every way. I think one good result of my visit to this place is that most of my students are able to tell the practical value of any mineral, and the Nelson people will not throw away their money again in useless mining ventures.

*"Boatman's."*—On my return from Nelson I held classes at Boatman's for a month; the average attendance about eight or ten. Several battery-managers and miners who wish to pass the examination and get certificate for mine-manager also attended, and I think some of them will shortly be able to pass their examination. I also held classes here once a week during September, October, November, and December, and for a month in January and February. They have a good building here, and a large number of members. The attendance was not as large as I should like, but this is easily accounted for, as a good many of the mines have lately stopped work, and the miners have left for other places. After leaving Boatman's I proceeded to

*"Westport and Denniston"*—at which places I held classes during July and August. The attendance at the former place was, I am sorry to say, small. The Committee have lately removed their building on to an allotment of their own. The building is rather small, but we hope soon to have it enlarged, and have a better attendance of members.

*"Denniston."*—The Denniston Committee have erected a fine building, consisting of two large rooms, one of which they use as a museum and lecture-room, and the other for class purposes. They have also built melting- and assay-furnaces, and have a fair stock of chemicals on hand. The attendance here of the coal-miners and others averaged about twenty, and I feel satisfied with the progress made in this school.

*"Reefton."*—On my return from Westport I held classes in Reefton during the remainder of the year—on Mondays, practical chemistry; Tuesday, at Boatman's Institute; Wednesday, assaying; Thursday, mining; Friday, chemistry. I also held classes for boys during the week, and on Saturdays; the average attendance, about eight to ten. Several miners and others wishing to obtain mine-managers' certificates also attend a class, and one has already passed the examination and got his certificate, and I expect three or four more to pass the next examination. This school is badly in need of a little Government assistance, as we find it takes all our revenue to supply chemicals, coke, lights, &c. We are also going to make an addition to our building to place our furnace in, and we are getting water laid on for a Pelton wheel to drive our berdan for test purposes.

*"Tailings."*—In conclusion I may say I have made numerous assays of tailings from the different claims crushing in this place, and find that we lose a large percentage of our gold. We have no tailings or chlorine plant, or any way of treating the tailings after they leave the batteries. The following tests will show the value of the tailings from the different companies:—

*"Globe:"* This company has saved several thousand tons of tailings, which assay from 3dwt. to a little over an ounce per ton. The pyrites in tailings out of a good many tests averaged over 2½oz. gold per ton. They are now erecting several Triumph vanners to concentrate them, but have not determined in which manner to treat them afterwards, as they think chlorine too expensive, and by other processes they would still lose a large percentage of gold.

*"Keep It Dark:"* This company is also saving some of its tailings lately. For years they have been allowed to run away into the river. The tailings assay 10dwt. to 15dwt., and pyrites over 3oz., gold per ton.

*"Welcome:"* This company has also several thousand tons of tailings saved, most of which have already been through berdans, out of which, I am informed, the company has made a profit of £200 to £400 per month. They assay from 8dwt. to 14dwt. gold per ton.

*"Progress:"* This company has only crushed for a few months out of a surface-level. They have a very large reef, 30ft. thick, which yielded 16dwt. per ton. They have now cut it 200ft. deeper, where it looks well, and contains a large percentage of pyrites, which on testing I found to contain 4oz. to 5oz. gold per ton.

*"Sir Francis Drake:"* This company's pyrites also assay well—viz., over 3oz. per ton. In fact, all the pyrites in this field contains from 2½oz. upwards of gold per ton, and the gold is very pure—97 to 98 per cent.

"I want to lay particular stress on the subject of tailings in this district, both for the information of the Mines Department and, further, with a view of drawing attention from outside capitalists as to their great value. It is really astonishing that, with mineral wealth of such magnitude going to waste for many years, no plant of any kind has been erected in the field for its treatment; and can only be accounted for by our isolated geographical situation. We hear and read every day of some wonderful new patent for the treatment of tailings and pyrites, with more or less claims of success according to the nature of the *débris* operated on: one naturally asks, how is it none of them have come this way, where such a splendid opening for enterprise and capital in this department exists—not to be surpassed, I will venture to affirm, in New Zealand. The mining companies in this field, who up to the present have rested satisfied with the gold obtained from the ordinary battery-treatment, would one and all be only too glad to either sell their tailings or purchase the right to use a cheap method for their treatment that could be guaranteed a success. By success, I mean they do not care if one method costs £3 per ton and saves 90 per cent. of gold, or another costs 10s. per ton and only saves 70 per cent. of gold. The question is, which will give most profit? One thing I am sure of, we have the best quartz-field in New Zealand at present in Reefton, and we are losing large quantities of our gold, and if any enterprising, competent, and practical man comes to this district, and can treat our tailings cheaply and successfully, he will soon make a fortune for himself and save thousands of pounds for companies."