

SCHOOLS OF MINES.

The instruction given at the various schools in the different mining districts continues to be of considerable service in the theoretical training of aspirants for certificates, by which they become eligible for positions as mine-managers and battery-superintendents. As a result of the examination open to schools of mines students, a scholarship was won by Mr. C. Fraser, a student at the Coromandel School of Mines. This entitles the holder to three years' free instruction at the University of Otago and a grant of £50 per annum.

The following reports relative to the past year's work have been received from the several schools:—

THAMES SCHOOL OF MINES.

Mr. F. B. Allen, M.A., B.Sc., Director, reports as follows:—

The following record indicates the work done at the Thames School of Mines during the last nine months of 1901, from the 1st April to the 31st December. Although, owing to the depressed state of mining in the immediate neighbourhood, the attendance has been less than formerly, nevertheless the students have attended regularly, and much good work has been accomplished; while in the battery there has been an increase in the number of parcels treated for the public.

The battery has been worked throughout the year by P. H. Grumitt, battery-superintendent, and he has performed his duties carefully, zealously, and entirely to my satisfaction, and I sincerely regret that he severed his connection with the school at the end of the year, with the intention of going to Australia.

Mr. A. B. Hardinge, as drawing-master, has performed his duties in a highly efficient manner, and several of his students have taken high positions in the annual examination in mechanical drawing.

The position of assistant lecturer and assayer has been temporarily held for the last nine months by Mr. K. M. Barrance, who resigned on the 31st December, and applications are now being called for a permanent assistant.

The museum has been opened to the public each week, a considerable number of mining-men taking advantage of the opportunity afforded them of viewing the rocks, minerals, and ores of the district displayed in proper order, and of comparing doubtful samples in their possession with those in the cases. The collection has proved of great assistance to the students in mining, mineralogy, and geology; new samples are being added from time to time, and the written labels are being gradually replaced by printed ones fixed in front of the specimens. This relabelling is a long process, but will be a very decided improvement when completed, and will enhance the value of the collection.

A great improvement has been made in the general appearance of the school property by removing the old fence and continuing the picket fence all round the grounds. The fence, which is 5 ft. high and strongly built, is painted white, and has a pleasing effect.

As usual, a number of excursions have been made to different places in connection with the mining and geology classes. On one occasion, through the courtesy of Mr. H. P. Barry, the metallurgical class spent a day in viewing all the details of the Waikino battery. Every part of the works was visited and much useful information obtained by the class concerning practical battery-work. On another occasion several of the students of the same class were permitted, through the kindness of Mr. R. W. Powell, to conduct a cyanide test on tailings in the Tararu battery. The students conducted all the operations—from the filling of the vats to the melting of the bullion—themselves, one of their number possessing a battery-superintendent's certificate being in charge of the party, and the results obtained were highly satisfactory. Altogether about 150 tons of tailings were treated, the assays of the ore, cyanide-solutions, residues, and bullion being also carried out and recorded in proper form by the students, who were thus enabled to put into practice the principles they had been taught at the school.

The number of assays made in the school assay plant during the last nine months is as follows:—

Public assays	...	...	...	...	...	162
Assays in connection with the experimental plant	...	...	...	...	...	184
Total assays	...	...	...	...	...	346

All the assays were made in duplicate in the separate assay-room set aside for this class of work, and every care was taken to insure accuracy in the results; and in this connection my own personal work has been largely increased during the last year. The school has continued to make assays for the Mines Department, details of which are given in this report.

There has been a considerable increase in the amount of ore treated in the experimental plant, the number of parcels, quantity of ore, and value of bullion recovered for the last nine months of 1901 being greater than for the whole twelve-monthly period preceding, and this increase in ore-treatment was especially marked during the last four months of the year.

Eight parcels, weighing 16,240 lb., were treated by pan-amalgamation, and yielded 66 oz. 18 dwt. 12 gr. of bullion, worth £128 11s. 1d.; five parcels, weighing 15,920 lb., treated by the cyanide process, yielded 63 oz. 18 dwt. 11 gr. of bullion, of the value of £172 10s. 5d.; and ten other miscellaneous parcels, of an aggregate weight of 6,298 lb., gave 35 oz. 6 dwt. of bullion, worth £38 19s. 8d. These together make an aggregate of twenty-three parcels, weighing a little over 17 tons, from which 166 oz. 2 dwt. 23 gr. of bullion were recovered, and a total value of £340 1s. 2d. returned to the owners of the parcels. The average rate of extraction both by pan-amalgamation and by the cyanide process was 83.5, and the details of weight, assay-value, percentage extractions, &c., for the separate parcels are shown in the attached tabulated statement.