

*Geology and Mineralogy.*—This class was started early in the year, but was not well attended. However, a little work was done in the determination of rocks and minerals with the aid of the blowpipe; and also some mining geology. There is a great want for some text-book on geology, especially on New Zealand geology. The book used here is "Geikie."

*Mining and Mathematics.*—The attendance in Reefton to these classes has not been large, although this was at one time our principal class. Instruction is given in logarithms, plane trigonometry, mining geology, strength of materials, timbering; formation of lodes, leads, and veins; pumping and pitwork, pipes; hauling and winding; engines, boilers, horse-power; ventilation, furnaces, fans, splitting of air, and gases, friction of air; explosives; water-power, water-races, motors; formulæ, &c. Special classes were held for those who were desirous of obtaining engine-drivers' and mine-managers' certificates. Many simply attend the classes to obtain their certificate, and leave as soon as that is obtained. In January, 1894, I sent eleven candidates up for examination, three for first-class mine-managers, three for first-class coalmine-managers, and five for engine-drivers. Out of these, six passed first-class; three obtained partial passes; and two failed. In all, from these classes, during the last four years twenty-eight students have passed successfully as follows: Twelve under the Mining Act, six under the Coal-mines Act, and ten for engine-drivers. In January, 1895, I sent for examination seven candidates, four under the Mining Act, and three under the Coal-mines Act, the results of which are not yet known.

*Land- and Mine-surveying.*—In this class instruction is given in the use and adjustments of the compass, dial, and theodolite; in the tabulation of traverses, calculation of areas, heights, and distances; plotting by protractor and rectangular co-ordinates, and levelling; also in the laying-out of roads and water-races. The attendance during the year has not been so large as in former years, and very little practical work outside has been done, on account of our theodolite being broken, and most of the screws about it are now worn out and useless. It will be necessary to obtain a new theodolite for this class during the coming year, and at present the school is not in a position to obtain one. This has always been a popular class, as it is a study which can be turned at once to practical use in a mining district, and one in which a great many mistakes are made.

*Drawing.*—A class in this subject was commenced for those who wished to compete in the scholarship examinations, but it was not attended by many. The text-book used on this subject was "Rose."

*Brunnerton Classes.*—In this place the classes have been again started, and the numbers attending the classes have been steadily increasing. The instruction given is principally in mining subjects and logarithms and trigonometry, and most of the students show a fair amount of progress in their work. I have now started visiting this place for one month in every three, and will, as soon as a stock of apparatus and chemicals are obtained, commence classes in assaying and chemistry. The Committee of this school have now obtained a good room for holding the classes in, and are gradually getting it fitted up and put in order.

*Dennistown School.*—In this school the classes have been carried on in surveying, mining, mathematics, &c.; a little work has also been done in assaying and chemistry, there being a fair supply of chemicals and apparatus in stock. I have now started visiting this school the same as Brunner, for one month out of every three, and the number of students are gradually increasing. The miners in this locality are a little scattered, and in bad weather many are unable to attend.

*Reefton School.*—Very little has been done this year in the way of adding improvements to the school, as the funds of the Committee would not permit it; in fact, owing to the small number of subscriptions we have been unable to keep up the supply of chemicals, apparatus, &c., and in many cases have gone short. This state of things is owing to the great depression existing, and thus depriving the school of its outside subscriptions, and leaving it dependent on the students' fees, which are very small. I am, however, pleased to say that the place is now looking better, and we may now expect far more support than what has been given to the school lately. During last year the Hon. the Minister of Mines ordered the electric light to be laid on throughout the school, which was done, and is now a great improvement and greatly facilitates the work.

It was intended last year to buy and erect in connection with the school a small testing and experimental plant, so that large parcels of stone, tailings, or concentrates could be operated on. This, however, could not be carried out, as the necessary funds were not available. There is, however, every chance of this being carried out this year, as the mining companies here are now awaking to the fact that a large amount of gold is being lost free in the tailings, and combined in the concentrates. In many of the mines the workings are getting deeper every year, and the deeper the workings the less the proportion of free gold and the richer the pyrites, so that it is now becoming a necessity for mining companies to look after their tailings and concentrates, as the amount of free gold obtained is barely payable.

*The Laboratory.*—During the past year about 250 assays, cyanide tests, berdan tests, &c., have been made, besides numerous experiments, determinations of minerals, &c., which shows an increase over that of the previous year. Among the tests made are: Fire assays, 165; cyanide tests, 32; berdan amalgamation tests, 15; coal analysis, 8; analysis of ores and concentrates, 9; meltings of bullion, 6; and bullion assays, 15.

A few berdan tests were made on new finds of stone in the district, and some on tailings after the concentrates are extracted from them, to determine the amount of free gold left in the ore. The cyanide tests were made for the most part on the tailings flowing from the batteries in the district, and the results show that the greater part of the tailings on this field can be made to pay well by the cyanide process. The failure of the cyanide process on the tailings at Boatman's prevented other companies from adopting its use here, and now many companies are simply saving the tailings and awaiting results from other places.