

NELSON SCHOOL.

This is a school where pupils are taught mineralogy, assaying, and elementary chemistry by Mr. W. F. Worley, who reports as follows :—

I have to report as follows upon the work done in the Nelson School of Mines from the 31st March, 1897, to the 31st March, 1898 :—

Blowpipe Analysis Class.

Thirty-three boys joined this class early in April, 1897, and most of them continued to work steadily and perseveringly till the end of March of the present year. For convenience in management the class was divided into two sections, an upper and a lower. Those boys who had had previous experience were placed in the upper section, whilst the new-comers were put into the lower section. The boys in the lower section met every Wednesday afternoon, those in the upper section meeting in the dinner-hour on Friday. The work attempted was similar to that of past years—namely, the testing by means of the blowpipe of the ordinary ores of commerce. By the end of the year those boys who had a two-years' course were able to identify with tolerable certainty ores of arsenic, antimony, bismuth, lead, tin, copper, chrome, iron, nickel, cobalt, manganese, zinc, and silver. They could also detect gold by panning.

Mr. John Tinlin, having offered £1 to provide two prizes for the two best boys in the upper section, that class was examined at the end of March last. Eleven boys were present at the examination. Six test substances were given to each boy, and one hour was allowed for testing. Harold Hounsell named them all ten minutes within the hour. Arthur Krahagen and Cecil Palmer tied, each naming correctly. To avoid the trouble of a further examination of these two boys a third prize was given by myself. The first prize was a blowpipe cabinet, the second prize (two of them) "The Prospector's Handbook." The interest shown by the boys in this work is very encouraging, and for their years they do well.

Last Christmas time seventeen of the boys were taken to the Champion Copper-mines. We stayed there three days, camping out, and made collections of all the important minerals in the neighbourhood. The iron, copper, and chrome collected at that time have since been tested in the blowpipe class.

Assaying.

There has been a steady run of assay work, but not so much as in the previous year. For the year ending the 31st March, 1898, twenty-seven assays were made, some of them being bulk-tests of 12 lb. or 14 lb. samples. The Weatherhead crusher, which was purchased by means of the Government grant, has proved extremely useful in testing these larger samples. It is not much good for coarse crushing, but does the fine grinding exceedingly well. By putting stone first through a Taylor's crusher and then through the Weatherhead crusher I am able to reduce 5 lb. of the hardest quartz to fine powder in a little less than an hour.

Only one of the above-mentioned assays calls for special mention, and that is the so-called platinum-ore from Takaka. For several years past some of this stone has come to me at intervals for assay, but the results have always been negative. Some time ago, however, Mr. Jacobsen, the owner of this ore, brought over to Nelson some bars of white metal which he declared to be chloride of gold. The metal was brought to me to be tested, and proved to be lead, with traces of iron in it. Mr. Jacobsen discredited my tests, and by promising large rewards succeeded in getting eighty persons to subscribe £1 each for the purpose of putting up a small furnace for reducing the chloride of gold. Feeling that the public were being misled by one much self-deceived, and knowing that he was using litharge freely in the treatment of his ore, I made it publicly known that the metal was lead, and that it came not from the ore, but from the litharge which was put in as a flux. The public generally accepted this view of it, but some still continued to believe in the untold wealth of the ore. As Mr. Jacobsen was unable to fulfil his promises of large sums of money to those who assisted him, the whole affair seemed to have died out, when a person visiting Nelson got some of the metal, sent it to Melbourne to be assayed, and reported 60 per cent. of platinum. Many persons immediately thought that Jacobsen was right. £1 shares went up to £10, and changed hands at that price. In the interests of the public I got some of the ore from one of the shareholders, tested it most thoroughly, published the tests in one of our newspapers (the *Colonist*), and reasserted most emphatically the impossibility of a precious metal being found in that ore. This prompt action had its effect, and for some time nothing has been heard of the mountain of platinum.

Conclusion.

Owing to slight indisposition through overwork no lecture-work was undertaken last year, but arrangements have been made for the delivery of three lectures during the coming winter. Considerable attention has been given to agricultural chemistry, and the results of some experiments in that direction have been forwarded to the Agricultural Department. Three young men are also studying agricultural chemistry under my direction.

REEFTON SCHOOL.

The Director of this school (Mr. R. M. Aitken) reports as follows :—

I have the honour to report on the work done at the Reefton School of Mines during the past year ending the 31st March, 1898, which, I regret to say, is not so good as that of the previous year.

At the beginning of the year there was a very good attendance to the classes, and the assaying department was kept very busy with outside work. This, however, did not last, and it gradually went down, so as to bring our average for the year rather low.

The classes were kept going regularly throughout the year, but in the latter part were very