"I have the honour to submit to you my report on the works carried on in the Reefton School of Mines and its branches during the year ending the 31st March, 1891.

"In the beginning of April, 1890, I received the appointment of lecturer at the Reefton School of Mines. I at once proceeded to Reefton, and, according to instructions, took over charge of the school from Mr. Fenton on the 1st May, 1890. At the request of the Committee of the school, I visited Boatman's, and found that the members there were very anxious for instruction, and that a good class could be obtained at least once a week. The school was in good order, but was badly in need of assay materials and chemicals. I then set down a time-table, and commenced to hold regular classes as follows: Mining and mathematics, Monday and Wednesday, at 7 p.m.; practical assaying, Tuesday at 10 a.m., and Friday at 7 p.m.; plotting, drawing, and survey work, Tuesday, at 7 p.m.; practical surveying, Wednesday and Saturday, at 10 a.m: Boatman's class, Thursday, at 7 p.m.

"It was impossible to hold a regular chemistry class on account of the want of chemicals; but chemistry and testing were done at the assaying classes. At first the classes were very badly and irregularly attended; but I am pleased to report that they have gradually improved, and that during the last three months there has been a considerable increase in the number of students. It must be remembered that this school is placed at a great disadvantage, owing to the mines, which employ a large number of men, being situated at a long distance from Reefton, rendering it almost impossible for those miners who desire instruction to attend the classes. The different shifts in the mines also interfere with the regular attendance.

"The Classes.

"*Mining and Mathematics.*—This is one of the principal classes held, and seemed to be the only regular class when I first took charge. The number of members attending at present is twelve, and the instruction given takes in arithmetic, trigonometry (including solution of plane triangles), logarithms, mining geology; timbering shafts, drives, and stopes; sizes of timber, strength of materials, hydraulics, ventilation (including barometer and thermometer), hauling and winding on inclines and shafts, and the mechanics of lodes.

"*Practical Assaying.*—This class has at present about fourteen members, who are instructed in the use and properties of the fluxes and re-agents employed in assaying, also in the assaying of gold- and silver-ores, valuing and refining bullion, and in assaying lead, tin, antimony, &c. Very little wet-assaying has been done during the year, owing to the want of appliances and re-agents. The students in this class comprise surveyors, engineers, miners, school-teachers, bank-clerks, and battery-men.

"*Practical Surveying.*—On the 7th July we received a theodolite, and this class was commenced with a good attendance, some who did not attend any other class coming to this. The students were instructed in the use and adjustments of the theodolite, miners' dial, compass, and chain; and some very accurate surveys were made by the students. One instance of the usefulness of this class was seen in one of our mines here, where a student, by making a small survey, saved the company a lot of useless driving by showing that their drive was going in the wrong direction, and by putting them right.

"*Plotting and Drawing.*—The work done in this class is tabulating of surveys, working by co-ordinates of traverse, and calculation of area; also the plotting of surveys, and the drawing of mining timbers and the different parts of pumps, &c. The number of members attending was about five.

"*Boatman's Classes.*—These classes have been well attended during the whole year, there being twenty-three members, and a very good average attendance. The members take a great interest in their school, and had they only a little assistance some good work would be the result. The subjects taught during the past year have been mining, mathematics, and assaying. One member sat for the mine-managers examination last February, 1891.

"*Laboratory.*—During the past year sixty assays for gold and silver have been made, and six lots of bullion have been refined for the Colonial Bank, together with four bullion-assays. The other assays made are—tin, 3; iron, 2; antimony, 3; and coal, 1; besides numerous tests. Thirty samples of stone and tailings, from 1lb. to 150lb., have been tested by amalgamation in the berdan, and these tests have in a great many cases given something near the battery return, and can be more relied on than the fire-assay. Taking, for instance, the following:—

"Sir Charles Russell: 100lb. in berdan gave at rate of 2oz. 4dwt. 8gr. Twenty-two tons in battery gave at rate of 2oz. per ton.

"Cumberland: 50lb. in berdan: rate, 30dwt. per ton. Five hundred tons in battery: rate, 22½dwt. per ton.

"Fire-assays have been made of tailings, &c., to show the loss of gold, and the following may be of some interest:—

"Tailings—

Venus	3dwt. 8gr. per ton.
Keep It Dark	4 dwt. 23gr. per ton.
Pandora	3dwt. 12gr. per ton
Progress	10dwt. 22gr. per ton.

"Berdan Blanketings—

Sir Francis Drake	8oz. 0dwt. 1gr. per ton.
Fiery Cross	11oz. 4dwt. 9gr. per ton.

"Blanketings—

Sir Francis Drake	2oz. 6dwt. 14gr. per ton.
Progress	2oz. 16dwt. 8gr. per ton.

"Pyrites—

Scotia	4dwt. 22gr. per ton.
Gallant	2oz. 18dwt. per ton.
Inglewood	6oz. 8dwt. per ton,