

SCHOOLS OF MINES.

These institutions continue to serve a good purpose in affording mining students and candidates for certificates as mine-managers and battery-superintendents an opportunity for gaining knowledge in the several branches of work connected with the mining industry.

At the last examination of schools of mines students Mr. J. H. Adams, of Thames, succeeded in obtaining a scholarship which entitles him to three years' instruction at the Otago University at Dunedin without cost, and also a grant of £50 per annum.

THAMES SCHOOL OF MINES.

Mr. F. B. Allen, M.A., B.Sc., the late Director, who resigned to take a position under the Government of Western Australia, has been succeeded by Mr. O. G. Adams, F.C.S., A.O.S.M.

Mr. Adams reports as follows:—

The attendance has been somewhat limited owing to the depression existing at Thames. However, towards the end of the year prospects seemed to be brightening, and so the outlook for 1903 is promising.

In July Mr. F. B. Allen, M.A., B.Sc., resigned the position of Director, having been appointed to a similar position in Western Australia. The vacancy thus caused here was filled by my appointment, and I took up my duties on the 28th August. Owing to my recent arrival here my report will necessarily be somewhat incomplete.

Mr. A. H. V. Morgan, M.A., assistant lecturer; Mr. E. G. Wright, lecturer and instructor in electricity; and Mr. T. J. Mountain, drawing-master, have all done excellent work, and brought their students well on.

The annual examinations, held in December, were supervised by myself and my assistant. The results are given in tabulated form attached to this report. Mr. J. H. Adams succeeded in winning the University scholarship, and did exceedingly well, gaining 75 per cent. or over in fourteen subjects. He also gained the President's medal for the best all-round student, and Mr. R. W. Powell's medal for mathematics.

As a result of the January, 1902, Government examination of candidates for mine-managers' and battery-superintendents' certificates several students were successful.

I have pleasure in acknowledging the generous support and co-operation that the Council and the secretary, Mr. Albert Bruce, have accorded me. Towards the end of the year I recommended the purchase of an optical lantern, camera, lantern-slide maker, screen, and accessories, to be used for illustrating the lectures, so that the system of instruction might be brought quite up to date. The Hon. James McGowan, Minister of Mines, generously agreed to subsidise the Council's funds at the rate of £3 to £1 up to a total expenditure of about £40, to provide the money with which to purchase the instruments. I have no doubt that the use of the optical lantern for lecture purposes will tend to increase the attendance, and to improve the results at the annual examinations.

At the annual meeting of subscribers, held at the school on the 10th February, 1903, the following officers were elected: President, Mr. Mathew Paul; vice-president, Mr. W. Baker; treasurer, Mr. J. Hague Smith; Council, Captain T. C. Bayldon, Messrs. E. F. Adams, E. Murphy, J. McLaren, and R. W. Powell.

The experimental plant treated nine parcels during the year. There were 177 assays made for the public, also fifty-one assays and analyses for the Mines Department. Besides these there were a number of assays made in connection with the work in the battery.

In the latter part of 1901 the Council of the Thames School of Mines thought it advisable, in view of the importance of electricity to the mining industry, to start a class in that subject. The Minister of Mines was approached, and a Government grant obtained towards the expense of the class. The services of Mr. E. G. Wright, a pupil of Dr. Henderson, of the London Polytechnic, were secured, and the lectures commenced early in February, 1902. A dynamo and motor were obtained temporarily for the use of the class till the permanent machines and instruments could be obtained from England. These arrived in June, and were installed in a workshop which had been erected. The equipment is very complete, and contains all that is necessary to give the student intending to make electrical engineering his profession a good grounding in this science. The dynamo, driven by a 5-horse-power Pelton wheel, is capable of giving 20 amperes at 100 volts, and may be driven for experimental purposes either as a shunt or compound wound machine. The main switchboard is of marble, and contains double-pole switch, double pole, safety fuses, volt, and ampere-meters. The whole of the connections are easy of access, so that they may be varied for experimental work. A six-way distributing-board controls the lighting arrangements and the currents supplied to bench terminals, the latter having a pressure of 100 volts between them. A small experimental machine has also been provided. This may be run in a number of different ways—viz., as an alternating dynamo or motor, a continuous dynamo or motor, or as a motor dynamo or rotary converter. There are a number of instruments, including mirror, galvanometer, post-office Wheatstone bridge, tangent galvanometers, and magnetic pendulum; also model armature, showing the winding on a modern drum-wound dynamo. The school is lighted up throughout by electricity, all the work of wiring and fitting having been done by the students under the supervision of the lecturer; and it speaks well for the thoroughness of this work that it was able to pass the severe test made by the Inspector of the Underwriters'