observations. The geodesic station which was established on Mount Pleasant in 1892 will now be of great service to this class.

The annual examinations were conducted in the last week in November and first week in December. The papers were prepared and printed in Wellington, and forwarded to Mr. Bruce, the secretary of the school, who kept them in his possession in separate sealed packets until the specified time for each examination. The examinations were supervised by myself and Mr. F. B. Allen, M.A., B.Sc., my assistant. At the end of each examination the papers of answers were immediately placed in packets, sealed, and handed to the secretary. Mr. Henry A. Gordon, F.G.S., M.A., Inst. M.E., was the examiner in mine- and land-surveying, mining, explosives, and ventilation, pumping and winding, metallurgy and mineralogy; Mr. William Skey in assaying and chemistry; Mr. A. McKay, F.G.S., in general geology; while the papers in the physical sciences were set by myself.

Sixty-eight students presented themselves for examination, and of these thirty-four secured first-class certificates, twenty-three second-class, and twenty-seven third-class. The results compare favourably with those of former years, and in most subjects the standard was well maintained. There was a distinct falling-off in the percentages obtained in practical assaying (dry) and in the junior theoretical chemistry class, but this was balanced by a very marked improvement in the metallurgy of gold and silver, practical chemistry (inorganic), practical chemistry (organic), and land- and mine-surveying.

The President's medal was gained by Mr. A. R. Carnie with the high average of 92 per cent. in eight different subjects, and the McCulloch medal by Mr. J. R. Robinson with 84 per cent. in six subjects, while Mr. George Fleming followed close with 80 per cent. in eleven subjects.

Results of Annual Examinations, 1893–94.

Subject of Examination.	First Class.	Second Class.	Third Class.	Failed.	Total.
General geology	1	...	2	...	3
Mineralogy	1	2	...	...	3
Metallurgy of gold and silver	5	3	1	...	9
Mining	...	...	1	...	1
Explosives and ventilation	...	...	1	...	1
Theoretical chemistry (junior)	...	...	2	...	2
Theoretical chemistry (senior)	2	1	2	...	5
Elementary mechanics	6	..	...	...	6
Practical assaying (dry)	1	6	5	...	12
Practical assaying (wet)	2	1	2	...	5
Practical chemistry (inorganic)	2	...	1	...	3
Practical chemistry (organic)	2	...	2	...	4
Land- and mine-surveying	...	2	...	...	2
Sound, light, and heat	4	2	...	...	6
Magnetism and electricity	4	2	...	...	6
Laboratory practice (assaying)	3	2	7	...	12
Laboratory practice (practical chemistry)	1	2	1	...	4
Totals	34	23	27	...	84

Mr. Carnie has already received a good appointment as analyst to a guano trading company near New Caledonia.

Practical Assaying.—This still continues to be a largely-attended class. The ores found in the different parts of the Hauraki goldfield are of a very complex and varied character, and it requires a long and varied course of training to be able to determine the proper fluxes so as to obtain the best results. Almost any assayer can obtain fairly good results from clean rich ore, but it requires a practised hand and skilful manipulation to secure accurate results from complex sulphide ores worth only a few shillings per ton. In the treatment of ores by the cyanide process ultimate success depends very greatly upon accurate assaying. An assayer in a reduction-works or a bank must not only be reliable but also quick, so as to prevent an accumulation of work on his hands.

During the past two terms a large number of laboratory tests have been made by some of the metallurgical students, and hereunder I give a few of the results:—

Alburnia Concentrates.

	Assay-value per Ton. Oz. dwt. gr.	Percentage of Extraction.
Bullion	45 14 23	70·0
Gold	5 5 21	76·2
Silver	40 9 1	69·2
Value	£27 5 0	74·6

Operator, G. Fleming.

These concentrates contained a large proportion of decomposing sulphides, and when subjected to a special preliminary treatment before leaching the following results were obtained: Extraction —gold, 91 per cent.; silver, 25 per cent.; value, 85 per cent.