

drawing instructor, and the vacancy was filled by Mr. A. V. Newman, who is carrying on the work very efficiently.

*Equipment.*—Additions have been made to the electrical plant, to enable practical workshop tests to be carried out, and this branch is now well fitted up. On the 15th August, 1908, the contractors, Messrs. Judd and Sons, commenced the demolition of the old treatment plant and the erection of the new, and completed their contract in the beginning of the year. The new plant is an “all-sliming” plant, but is readily adaptable to coarse crushing and concentration. The plant briefly consists of rock-breaker, self-feeder, three-stamp battery, copper plates, Wilfley concentrator, spitzkasten, tube mill, B. and M. agitators, filter-tank, and extractor-boxes, with necessary pumps and elevators. The working-tests possible with the mill are—(1) ordinary battery process, (2) coarse crushing and concentration, (3) all-sliming and cyaniding. Ten tons of ore are now on hand for treatment as soon as a small air-compressor is installed.

The museum specimens are continually being added to, and I have to thank Messrs. Barclay, Stansfield, Bush, Sullivan, Adams, Baker, McCormick, and others for donations of specimens.

During the year I have discovered two minerals new to the district which are of special interest, as being in both cases associated with high gold-values. The first is a telluride mineral brought in by Mr. A. Whitley, and occurs in the Waitangi Mine, Tarau, in bands associated with blende and copper-pyrite. As far as my investigations go, it is a mixture of hessite and tetradyomite. Some samples on analysis showed 20 per cent. of tellurium; but it is practically impossible to get the pure mineral isolated. The second mineral, discovered through Mr. J. O’Sullivan, is from the Magnet Mine, Karaka Creek. It is a splendid specimen of enargite, occurring as a secondary mineral in a vein of pyrite and barite; it is generally accompanied by high gold-values.

The assay department has been kept busy. In 1908 over three hundred assays were made for the public, and this year seventy-eight assays were made. The institution of free assays for prospectors is being largely availed of, and cannot but help the mining industry.

I have, &c.,

W. H. BAKER, Director.

Mr. C. A. COTTON, M.Sc., Director of the Coromandel School of Mines, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Coromandel, 23rd April, 1909.

I have the honour to report as follows on the work of the Coromandel School of Mines for the year 1908 :—

The number of students on the roll was—for the first term, 15; for the second term, 15; and for the third term, 14.

Instructions were given in the following subjects: Mathematics, chemistry, assaying, metallurgy, geology, mining subjects, surveying, and mechanical drawing.

During the year 138 assays were made for the public.

The present year has begun satisfactorily. The number of students on the roll at present is eleven, with a class attendance of thirty-two. Most of the students are making satisfactory progress, and paying great attention to their work.

I have, &c.,

C. A. COTTON, Director.

Mr. F. W. REID, A.O.S.M., Director of the Karangahake School of Mines, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Karangahake, 17th April, 1909.

I have the honour to submit the following report on the work of the Karangahake School of Mines, and of the branch school at Waikino, for the year ending 31st December, 1908 :—

As it was in September of last year that I was appointed Director, my information relating to the earlier portion of the period under review is drawn entirely from the school records.

*Attendance.*—The average number of individual students in attendance for the three terms of the year was forty-four, with a class attendance of ninety. The fact that mining operations at Karangahake were less active than usual during the latter portion of the year militated against the attendance, and was also largely responsible for the comparatively low results obtained at the annual examinations.

*Classes.*—The number of classes in operation was eight at Karangahake and six at Waikino.

*Examinations.*—At the annual examinations, held in December, 10 students presented themselves at Karangahake, the passes obtained being 2 second-class and 5 third-class. At Waikino 13 students presented themselves for examination, and obtained 5 first-class, 2 second-class, and 5 third-class certificates. At the examination in bullion-assaying 1 student at Karangahake and 2 at Waikino qualified for the certificate issued by the Customs Department. At the annual examinations for mine-managers, held during March, 1909, one student, Mr. Walter Smith, of the Talisman Mine, succeeded in obtaining a first-class certificate of competency as a mine-manager. Another student obtained a second-class stationary-engine driver’s certificate.

*Library.*—During the year some valuable additions were made to the library of each school by the purchase of standard works. The leading mining and metallurgical magazines are also regularly obtained, and by the courtesy of the Hon. the Minister of Mines the various publications of the Department are made available for the use of students. In this connection I desire to make special mention of the excellent articles in the *Mines Record*, which are very helpful and instructive.