(*b.*) This course includes the determinations by standard wet methods of lead, copper, arsenic, antimony, iron, chromium, nickel, cobalt, zinc, aluminium, &c., in their ores.

*Chemistry.*—Lectures are given in theoretical chemistry, mainly as an introduction to practical chemistry. They treat of the use of formulæ and symbols, equations, naming of elements, and compounds such as binary compounds, salts, acids, &c. The laws of chemical combination. The preparation and properties of the metallic elements and their important compounds; also of the more important non-metallic elements.

*Text-book:* Newth.

*Practical Chemistry* includes qualitative and quantitative analyses for the common metals and non-metals; acidimetry and alkalimetry; volumetric analysis of iron, copper, zinc, calcium, silver, and lead.

*Text-book:* Clowes and Coleman.

*Mechanical Drawing.*—Plane geometry, construction of scales, lettering, projection, drawing to scale of machinery and details, colouring and shading.

*Text-book:* Jones, Machine-drawing.

*Survey-map Drawing.*—Lettering, titles, and borders, plotting survey to scale by rectangular co-ordinates and by protractor sheet and parallel rule. Making sectional plans from levelling operations. Scales, &c. Use of slide-rule.

*Geology.*—Cosmical geology, dynamical geology, structural geology, historical geology, and elements of palæontology, economic geology.

*Mineralogy.*—Elements of crystallography, descriptive and determinative mineralogy.

*Metallurgy.*—Location of mill, ore-bins, crushers, feeders, stamps, rolls, roller-mills, amalgamation in pans and on plates, classification and concentration. The cyanide process, chlorination process. Metallurgy of silver is described in detail as well as the refining of all products obtained by the different processes.

*Metallurgical Chemistry.*—This course is offered to advanced students, and includes the qualitative and quantitative analyses of amalgam, concentrates, sands, slimes, slags, &c., besides the assay of key solutions for contained metals and acids, laboratory tests on ores for treatment by amalgamation, and lixiviation processes.

*Electricity.*—The classes in electricity are under the charge of Mr. Lancaster, instructor in electricity for North Island schools of mines. The syllabus of instruction is uniform for all schools.

The annual meeting of subscribers was held on the 12th March, 1906, when the following committee was elected for the ensuing year: Patron, Hugh Poland, M.H.R.; President, H. E. Phillips, Esq.; Vice-presidents, C. H. Tresize, Esq., G. N. McGruer, Esq., H. Croucher, Esq. Council—Messrs. H. W. Guthrie, R. Inglis, J. Nodwell, G. A. Chappell, H. Rochfort, J. Rawlinson, H. Macdonald, and R. R. Lloyd (Secretary).

In conclusion, I must heartily thank all gentlemen who were so kind as to donate books, papers, and specimens to the school; and to the Council for their hearty co-operation in all movements for the welfare of the school.

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## NELSON SCHOOL OF MINES.

The following report is submitted by the instructor, Mr. W. F. Worley:—

I have the honour to submit the following report of school-of-mines work done here during the year 1905. The course of work taken up was much the same as in previous years, and comprised the teaching of blowpipe analysis to lads of from twelve to fourteen years of age, the assaying of ores for the public, lecturing on scientific subjects, and the carrying-on of geological exploration.

### Blowpipe Analysis Classes.

Two classes for teaching this subject were in session from the 7th February to the 15th December. Seven boys who had had previous experience were put into an upper class, while thirteen beginners constituted a lower class. Of the twenty boys who received instruction during the year fourteen remained in the classes till the end of the year, the remaining six having for various reasons dropped out.

The work undertaken was almost identical with that of past years, and consisted chiefly in the qualitative analysis of ores of commercial importance.

At an examination held at the close of the year's work, five boys succeeded in passing with credit, and were awarded certificates of merit.

### Assaying.

Twenty-two assays were made for the public, not one of which gave more than traces of precious metal. The poorness of the assay-results in this district for the past few years is, I regret to say, very disappointing, as it seems to indicate that either the prospecting for ores is not sufficiently vigorous or that the district is deficient in ores of payable quality. Scientific prospecting would, I think, probably lead to the discovery of payable ores in some of our back country, but at present there is a lack of public enthusiasm for this kind of enterprise.

### Lectures.

At the Nelson Institute, on the 31st July, a lecture on the geology of the Nelson Port Hills was given by me. The subject was treated in a popular manner, and consisted chiefly of a detailed description of the observations that had been made and the deductions which had been drawn therefrom.