

1885.  
NEW ZEALAND.

## LECTURES ON THE GOLDFIELDS THROUGHOUT THE COLONY

(CORRESPONDENCE WITH PROFESSOR J. G. BLACK AS TO PROVIDING FOR).

[In continuation of C.-2A.]

*Presented to both Houses of the General Assembly by Command of His Excellency.*

Professor J. G. BLACK to the Hon. the MINISTER of MINES.

SIR,—

University of Otago, Dunedin, 11th May, 1885.

I have the honour to submit a scheme of instruction for the local schools of mines which I believe would fairly meet, for a few years, the requirements of the mining districts of Otago and the West Coast.

There have already been formed on the West Coast ten clubs, or schools of mines, with funds subscribed (generally £1 for each member). These local schools are at Reefton, Boatman's, Lyell, Westport, Waimangaroa, Greymouth, Kumara, Hokitika, Ross, Goldsborough.

In Otago there are, I believe, eight similar local schools—namely, two at Lawrence, and one at each of the following places: Naseby, Queenstown, Skipper's, Arrowtown, Cromwell, Bannockburn.

The existence of these clubs is strong evidence of the great demand among the miners for special instruction in the branches of knowledge that lie at the root of the mining industry.

It will be much easier to foster these efforts now than to resuscitate the schools after they have collapsed for lack of the necessary support. It is therefore very desirable to take immediate action, and organize an elastic scheme that will grow with the growing requirements of the mining districts. Such a scheme would afford the best kind of technical education on the goldfields. The scheme need not at first be a large one. It should, however, provide for instruction in the following branches of knowledge:—

(1.) *Geology*.—The general subject, the modes of occurrence of the valuable minerals, prospecting by boring and otherwise.

(2.) *Mineralogy*.—The physical characters of useful minerals, the testing of the more common minerals, the blowpipe.

(3.) *Ore-dressing*.—The general subject, gold-saving appliances, the treatment of auriferous sulphides, the preparation of ores for the market.

(4.) *Metallurgy*, including the characters, and modes of occurrence, and chemical composition of minerals and ores containing gold, silver, lead, platinum, mercury, tin, copper, bismuth, antimony, zinc, iron, manganese, cobalt, nickel, &c., and the tests for the above, and the processes for extracting the metals from their ores.

(5.) *The Chemistry* of minerals.

(6.) *Testing and Assaying*.—Wet and dry methods, including practical instruction in the processes for assaying the metallic ores named above, the assay of bullion. In these testing and assaying classes the students themselves would do all the work, under the direction of the instructors. It is for the prosecution of this kind of work that the local schools have chiefly been formed.

(7. and 8.) *Mining and Mine Surveying*.—These could be provided for by one of the instructors, aided (at Reefton, Boatman's, Lyell, Skipper's, and Macetown) by one of the mining engineers in practice in the district. There are two mining engineers at Reefton—namely, Mr. Gardiner and Mr. Watkins, both of whom took a very prominent part in carrying on my classes in the Reefton district, and expressed themselves willing and glad to take any part in the work of these schools that may be assigned to them.

The following are the centres at which I think instruction should be provided. I have marked with an asterisk the places where I have already lectured, and with two asterisks the places at which local schools of mines have been formed. Assuming that Mr. Alexander Montgomery, M.A., and myself, with my laboratory assistant (Goodlet), will be appointed to carry out the scheme, Mr. Montgomery being engaged the whole year, and myself and assistant six months a year, I have proportioned the time at each place to the importance of the district:—

## On the West Coast.

	Mr. Montgomery.	Professor Black and Assistant.
** Hokitika, Kanieri, * Rimu ... ..	4 weeks	} 2 weeks
** Ross ... ..	2 weeks	
** Kumara, Dillmanstown ... ..	4 weeks	} 2 weeks
Waimea, ** Stafford ... ..	2 weeks	
** Greymouth, * Brunnerton ... ..	3 weeks	} 2 weeks
* Nelson Creek, Ahaura, No-town ... ..	2 weeks	
* Paroa, Maori Creek ... ..	2 weeks	} 2 weeks
** Reefton, Black's Point ... ..	4 weeks	
** Boatman's ... ..	2 weeks	} 2 weeks
** Lyell ... ..	1 week	
** Westport, ** Waimangaroa ... ..	3 weeks	} 1 week
* Charleston, Addison's Flat ... ..	1 week	
Collingwood ... ..	3 weeks	} 1 week
Mokihinui ... ..	1 week	
Totals ... ..	34 weeks	10 weeks

## In Otago.

	Professor Black and Assistant.	Mr. Montgomery.
** Lawrence, Bluespur, Wetherstone's, * Waitahuna ... ..	4 weeks	3 weeks
Waipori ... ..	1 week	1 week
Clyde, * Alexandra, Black's... ..	2 weeks	2 weeks
Tinker's, * St. Bathans ... ..	1 week	1 week
** Cromwell, ** Bannockburn, Nevis ... ..	3 weeks	3 weeks
** Queenstown, ** Skipper's, Macetown, ** Arrowtown... ..	3 weeks	4 weeks
** Naseby, Hamilton's, Hyde, Kyeburn ... ..	3 weeks	3 weeks
Totals ... ..	17 weeks	17 weeks

To carry out this scheme for the next three years, I believe such a man as Mr. Montgomery engaged all the year round, and myself or Professor Bickerton or Professor Brown, of Auckland, engaged continuously for six months in the year, would be sufficient for the Middle Island, especially if supplemented by help at Reefton and Boatman's, Lyell, Skipper's, and Macetown from a mining engineer in practice. Mr. Montgomery is thoroughly qualified to take a leading part in carrying out this scheme. Indeed, with Mr. Montgomery as my colleague, to take charge of the West Coast, and with my own laboratory assistant for six months of the year, I would undertake to carry out all that would be necessary under the scheme for the next three years. At the end of that period it would probably be found desirable to concentrate and consolidate the local schools into four thoroughly-equipped schools of mines for Otago—namely, at Lawrence, Naseby, Cromwell, and Queenstown; and four for the West Coast, at Westport, Greymouth or Kumara, Reefton or Boatman's, and Hokitika. The North Island would also be provided for in the same way, according to its requirements.

It will be an easy matter to conduct these larger schools of mines when once they are established. One teaching staff—say, Mr. Montgomery (or some one similarly qualified) the whole year, and myself and my general assistant for six months per annum—would be sufficient for the four Otago schools.

A similar staff of two good men would conduct the West Coast schools, and a third staff (from Auckland College) would conduct the North Island schools.

Professor Bickerton, of Canterbury College, will probably be willing to do on the West Coast the work that I am proposing for myself for Otago at the end of, say, three years. I do not think, however, that it would be advisable to organize these more ambitious schools for a few years yet, until some progress has been made under the scheme that I am proposing as sufficient for the next three years.

By that time I believe there will be a strong public feeling in favour of concentrating the schools as above. There will also be abundance of students ready to avail themselves of the advantages offered by the superior schools. I am very sanguine of the immediate success of the smaller scheme—the existence of so many local clubs insures that; and it will be my object during the next three years to create such a feeling in favour of a further advance that the miners, as well as the local bodies, will willingly aid in every way to get provision made for the establishment of these more ambitious schools of mines.

Should Government favourably entertain the three years' scheme detailed above, the duties I would have to perform under it would be such as the following:—

(1.) To exercise, all the year round, through the post, a general supervision of the local schools of mines, and to aid and advise them in their studies.

(2.) To select, make lists of, and order from London the books, chemicals, and apparatus required by the schools.

(3.) To analyze minerals sent through the local schools by their secretaries at reduced rates—say, half the usual charge.

(4.) To supply any information within my power to the Department of Mines when called for.

(5.) To devote my whole time for six months in the year—1st November to 1st May—to delivering lectures and conducting testing and assaying classes on the goldfields of Otago and the West Coast, as detailed in the scheme.

(6.) To furnish an annual report to the Minister of Mines on the work done in these schools during the year, with information of new localities for useful minerals, new discoveries of useful minerals, and any information of new processes or improved processes not generally known by miners; and anything further of use or interest to the Mines Department.

Mr. Montgomery's duties would be of a similar character.

It will, I think, be desirable to strictly prohibit every one engaged under this scheme from having anything to do with shares in mines, and with mining property in every form.

In conclusion, I wish to express my strong impression of the necessity of taking immediate action, while the minds of the miners are so full of the subject. A Government subsidy of £1 for £1, or even £2 for £1, subscribed for the purchase of books, chemicals, and apparatus, would be a great boon to the local schools. The subsidies might take the form of appliances, imported through me by the Government and allocated to the schools in proportion to their subscribed contributions. It would, I think, be desirable to charge fees for the various classes, the maximum fee for one student, attending all the lectures and classes of all the instructors, to be not more than 10s. This would cover seven weeks' continuous instruction in all the subjects taught. The fee ranging down to 2s. 6d. for students in places where one week's course is carried on. The general public, attending only an occasional lecture, to pay 1s. at the door. These fees would defray the cost of advertising and horse-hire.

The local bodies, such as County Councils, Town Councils, Education Boards, or School Committees, should, I think, provide lecture-room for the purposes of the scheme.

I have, &c.,

JAMES G. BLACK.

The Hon. the Minister of Mines, Wellington.

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..