

the instructor must carry his laboratory about with him. My expenses for carriage of chemicals and apparatus from the Thames to Karangahake, Waihi, and Waiorongomai amount to about £14 10s., which would go a long way to cover the cost of the whole of them.

Another matter which I wish to bring before your notice is that one instructor is not enough for such a large district as the Coromandel Peninsula. The time that one man can give to each mining centre is too little to be of much use. Two teachers are urgently required, each having the assistance of a laboratory-boy. In view of the importance of the mining industry in the district, and the necessity for giving it scientific guidance, it is to be hoped that steps will be taken before long to establish a complete and thoroughly-equipped school of mines at the Thames. The teachers of that school might then take turns in visiting the outlying districts, and with small laboratories in these as above suggested work could be carried on without the long breaks which at present hamper it so badly.

Professor Black, M.A., D.Sc.,
University of Otago.

I have, &c.,
A. MONTGOMERY, M.A.

No. 5.

Mr. A. MONTGOMERY, M.A., to Professor BLACK.

SIR,—

Thames School of Mines, Waiorongomai, 22nd May, 1886.

I enclose copy of report on Tauranga County finds of quartz for attachment to report sent to you on 17th instant. The original report being at the Thames I could not send you a copy sooner.

I have, &c.,

Professor Black, University of Otago.

A. MONTGOMERY.

Mr. A. MONTGOMERY, M.A., to R. C. JORDAN, Esq., Mayor of Tauranga.

SIR,—

Thames School of Mines, 9th February, 1886.

I have to report that I have made assays of the samples of quartz forwarded by you from various parts of the Tauranga District. With one exception—a sample (A) of quartz—none of the stone gave a payable result, though traces of gold and a little silver were found in nearly every case. With regard to the quantity of silver shown by the assays, it must be regarded as only approximately correct, as I was unable to procure any litharge quite free from silver to make the tests with. The amount of silver known to exist in the litharge has been deducted from the total silver found, but there might be a little difference in the amount of silver reduced from litharge in different cases. The error due to this cause is not, however, sufficient to affect the question of the payable or unpayable nature of the stone. The following are the results of assays:—

Sample 1.—From Katikati, sent by Mr. S. Earl: Dense quartz, containing a great deal of pyrites. Rusty on outside from weathering of pyrites. Could find no gold nor silver.

Sample 2.—From Katikati: Quartz with some pyrites and a little calcite. Gold, 1dwt. 15gr. Silver, 1oz. 14dwt. 7gr. per ton.

Sample 3.—From Katikati: Quartz, with a good deal of calcite, and some pyrites. No gold or silver.

Sample 4.—From Katikati: No gold or silver.

Sample 5.—From Katikati: Calcite, quartz, and pyrites, all plentiful. Bare trace of gold. Silver, 13dwt. 1gr.

Sample 7.—From Katikati: Quartz, with much calcite, and a good deal of pyrites. Gold, 1dwt. 15gr.; silver, 1oz. 1dwt. 5gr. per ton.

Sample 8.—From Te Puke, Proud's Reef: Mottled, brecciated quartz, with a good deal of pyrites. Gold, 1dwt. 16gr.; silver, 1oz. 1dwt. 4gr. per ton.

Sample 9.—From Te Puke: Similar quartz to Sample 8. This was, unfortunately, lost in the furnace, and I have not had time to repeat the test since.

Sample C.—This was a small sample of quartz in a paper parcel in a small bag, forwarded by Mr. Galbraith. It gave a slight trace of gold.

Sample C.—Cellular quartz, with white dense quartz, showing agate structure in parts. Sent by R. S. Galbraith. Found at Te Puke, top of No. 3 Road. The labels of this sample and the next had got detached, so that I could not tell which was meant. This sample was a very white quartz. Trace of gold. Silver, 9dwt. 19gr.

Sample C.—Brown dense quartz, with a little pyrites. Forwarded by Mr. Galbraith. A small sample of iron pyrites in a match-box, also sent by Mr. Galbraith, was too small for assay. The brown quartz gave a slight trace of gold.

Sample.—From banded reef of quartz and pyrites in the Momitu River, Kaimai District, collected by myself. I could detect neither gold nor silver in it.

Sample A.—This was a sample of rusty cellular quartz, pretty free from pyrites. Locality where found is not stated. This is the only good stone that I examined, giving 1oz. 9dwt. 9gr. of gold, and 2oz. 12dwt. 6gr. of silver per ton of ore.

The quartz found in the Te Puke and Kaimai Districts is in a rhyolitic formation, which has not, I believe, been yet found to contain payable gold and silver ores. As far as I could ascertain from men well acquainted with the country, no gold has ever been found in the creeks and rivers traversing this formation. This absence of gold in the creeks is a very unfavourable sign; for, if there had been gold in the reefs, their destruction by weathering would have liberated the gold which would get washed into the creek-beds. Both at Te Puke and Kaimai there are large reefs of quartz, carrying large quantities of iron pyrites, a mineral without which gold is hardly ever found. I