

would have to be met during the spring and summer months when the lakes could not be closed up. Taking all the bearings of the scheme into consideration, the collateral advantages likely to be derived do not justify so large an expenditure.

SCHEELITE.

Recently there have been several inquiries from gentlemen in London and Liverpool as to the supply of scheelite. In a letter sent me by Mr. George G. Blackwell, 27, Irwell Chambers, West Liverpool, of the 1st of April last, he stated that a parcel of scheelite had been turned over by him, testing 40 per cent., at £13 per ton; and he says that probably £14 could be got. This mineral is found in several districts in Otago—namely, Wakatipu, Cromwell, Waipori, Waitahuna, and Macrae's; also in Marlborough, at Wakamarina; but owing to the uncertainty of finding a market for scheelite it has not received a great deal of attention. A company was formed a number of years ago, termed the Wakatipu Scheelite Company, which carried on operations at the Buckleburn head of Lake Wakatipu for a considerable time. In reference to this company Professor Ulrich, of the University, Dunedin, in reply to a letter from the Hon. the Minister of Mines as to the supply of this mineral, gives particulars, of which the following is an extract:—

“Bitter experience, however, has taught the Wakatipu Scheelite Company of this”—referring to the fluctuations in market price—“as I shall presently explain, after having made a few observations about the mode of occurrence and dressing of the scheelite. From all I have heard and seen the ore is tolerably abundant in the gold-mining districts of Otago . . . but only sporadical, so that it cannot be depended upon for making contracts for supplying definite quantities at certain dates. At one time it may occur in a pretty large pocket, traversed by thin quartz veins, but many feet may have to be driven or sunk before finding another pocket of the kind. Then, again, and this is the most common mode, it may appear in thin, broken veins, or in larger and smaller particles impregnated in the quartz throughout limited irregular areas of the reefs. Whilst the first occurrence can by spalling and simple hand-dressing be brought to a marketable percentage, which is limited to not less than from 50 to 55 per cent. of tungstic acid—that is, from about 62 to 69 per cent. of pure scheelite—this is not the case with the second one, which requires crushing and proper ore-dressing machinery. . . .

“The Wakatipu Scheelite Company, after working several large pockets of scheelite by hand-dressing, found the mineral lower down in the reef too finely impregnated to be saved by this method, and, as inquiry for it at good prices continued, the shareholders decided to erect proper ore-dressing machinery . . . which consisted of two stone-breakers, four double-acting jigg-machines, a series of classifiers, and a 25-horse-power turbine for motive power. Besides this, a water-race was purchased, and about three miles and a half of a dray-road constructed to get the ore sent to Glenochy for shipment. An expert ore-dresser, trained at the Mount Bischoff Tin-mine, Tasmania, was engaged, but up to the time of the commencement of machine-dressing the mine had produced about 18 tons of good ore, which was sold at prices ranging from £29 to £23 per ton; but as the expense for mining, dressing, carting, shipping to Kingston, railway freight to Port Chalmers, shipping to Hamburg, railway to Hanover, and agencies came to over £12 per ton, the profit was not so large as was expected. . . .

“When machine ore-dressing commenced there was still inquiry for the ore, and about 9 tons were sold at from £22 to £20 per ton; but then, all of a sudden, the Hanover firms did not require any more, and at that time there were no other purchasers. The company did not at first consider this in a serious light, trusting to an early revival of the market, and work was carried on for some time. . . . Two years passed by before there was any inquiry for scheelite again. Nearly ten tons of the ore, mostly produced since the collapse of the market, and which had been stored partly at Port Chalmers and partly in Hamburg, was sold at about £17 per ton. . . . This company spent close on £3,000 capital, besides all the money from sales of scheelite, and it would require now about from £500 to £600, if not more, to put the mine and machinery in working order again.”

Professor Ulrich, being interested in the company he refers to, is in possession of all the facts of the case in reference to the demand for scheelite; and, no doubt, although there are several inquiries about this mineral at the present time, and a good price offered, the occurrence of scheelite deposits in New Zealand would not warrant any one entering into contracts to supply certain quantities within stated periods. As Professor Ulrich puts it, any company commencing to mine for this mineral would have first to go to a considerable expense in opening out a mine and erecting machines to crush and dress the ore, and after a short time would probably find that the use of this mineral is too limited to insure always a market for it at a fair price. If a market could be relied on there is no doubt but that a considerable quantity of ore could be sent from this colony.

MANGANESE.

There are large deposits of manganese in different portions of the colony. Rich samples have been got near the mouth of the Taieri River, in Otago, and there are large deposits inland in Canterbury; but the cost of transit to a port of shipment, together with the low value of manganese ores, which varies from £2 to £3 per ton, according to the percentage of manganese they contain, precludes any deposit being worked unless in close proximity to deep water where vessels can be loaded. During last year the Colonial Manganese Company, of Auckland, got 600 tons from Waiheke; Mr. Phillips, from Helena Bay, about 50 tons; Messrs. Cook and Harrison about 150 tons from Parua Bay; Mr. Smith shipped 100 tons from Mangapai, and Mr. Thompson got some 45 tons from the Island of Waiheke; making a total of 945 tons.