

No. 12

Mr. Warden MACFARLANE to the UNDER-SECRETARY of MINES.

SIR,—

Warden's Office, Jackson's Bay, 13th April, 1888.

Herewith please find annual report on the mining districts under my charge for the year ending 31st March, 1888,—

Jackson's Bay.—Mining in this district is principally confined to the black-sand beaches on the coast, where men, as a rule, continue to make small wages; rich deposits are occasionally found after stormy weather on the outer beaches. A few men are at work about Big and Morton's Bays, on the beaches and the low ranges near the coast. Pauline and party from Dunedin are out in the country behind Big Bay, but owing to the unfavourable weather we have had since Christmas, I am afraid the results will be anything but satisfactory.

In my last year's report I referred to the discovery of a new nickeliferous alloy, awaruite, found in the Gorge River and neighbourhood. A sample of this sand was sent Home to Sir Francis Dillon Bell, Agent-General, who placed it in the hands of Messrs. Johnson, Matthey, and Co., London, for exhaustive analysis. I have now much pleasure in appending copy of results obtained. "Assay Offices and Ore Floors, Hatton Garden, London, E.C., 24th January, 1888. Certificate of analysis. The Agent-General for New Zealand. We have carefully analysed the sample of black-sand marked as under, and find the following to be the proportions in every 100 parts: Mark of sample—Iron, 44·20; nickel, 11·60; cobalt, ·40; sesquioxide of chromium, 15·82; oxide of manganese, ·35; magnesia, 4·80; silica, 5·90; sulphur, ·50; water, ·30; oxygen and loss, 16·13; total, 100·00. Platinum, minute trace; gold, nil; silver, nil.—JOHNSON, MATTHEY, AND Co." Their report shows the sand to be valuable, and they say "it will command a ready sale in England, unless the quantity should be so great as to disturb the nickel market." Another important factor to be taken into account in arriving at even approximate values is the fact that gold, in quantities sufficient to pay men from £1 to £1 10s. per week, is found associated with this mineral. In the sand tested the gold was taken out by the miners previous to its being sent Home for treatment, hence the absence of gold in the results of analysis. With nickel at 4s. per lb. (the present market value of the metal), and without reckoning the bye-products, iron, chromium, cobalt, &c., all of considerable economic value in London, I think we may consider the results as extremely satisfactory. The deposit is extensive, and unless the cost of transport from the Coast to London, and treatment afterwards, is out of all proportion to its market value, the discovery should lead to the establishment of a new and extensive industry. No new discoveries have been reported.

Portions of the Cascade and Pyke Valley Road are in course of construction, and will probably be open for traffic in about four months. This portion will give access to the head of the Gorge River, but a continuation of this road through to the Holyford is much wanted.

The Haast Pass Track from the Clarke Bluff to the sea is simply impassable, unless at risk to both life and limb. I understand that £400 is being spent on this road; but, as heretofore, three-fourths of it is being spent on the east side of the saddle, and four men have been sent over to patch up a few of the worst places on the west side. This track through the Haast Pass, the connecting link between the East and West Coast, would be largely used but for the fact that the track is, and has been for years, in such a state that any one making the attempt would surely come to grief. Money has been voted for this track, but it seldom reaches as far as the Coast. I would therefore suggest that a little more attention and consideration should be shown to repairs required on the road from the Clarke Bluff to the sea-coast, so that the road through to the coast may be available for travellers.

Okarito.—Ordinary mining operations in this district are much as they were a year ago; very little prospecting has been done, men being satisfied to plod along at their old workings, realising small but certain returns for their labour. The exception to this has been the explorations made by Charles E. Douglas on the head-waters of Cook's, Waiho, and Karangarua Rivers. This indefatigable prospector has spent the season in examining the gullies and outliers of this portion of the western water-shed of the Southern Alps. He reached a height of 9,000ft., and traced drift-gold until it was lost under the snowfields and glaciers covering the heads and shoulders of the principal peaks of the main-range. The value of Mr. Douglas's explorations, as compared with the ordinary prospector, will be apparent when I state that in this, his latest journey, he has mapped out the whole of the country traversed; marked the principal topographical features; noticed the dip and strike of the strata, and other geological indications; taken hand specimens of rocks from every formation crossed; and ascertained that the heavy gold found in the gravels of Cook's, Waiho, and Karangarua Rivers is derived from an auriferous belt lying near the axis of the main-range, and appears to be a much older formation than the matai slates of the carboniferous series, from which some of the gold near the coast has been derived. Whether this auriferous belt, lying under the eternal snowfields and glaciers of Mount Cook, Tasman, and La Perouse will ever be reached, or, if reached, whether it would be of any practical value, except as an unfailing source from which our gold-drifts are supplied, is questionable, as the country is difficult of access, and travelling dangerous in the extreme; to use the graphic language of the prospector: "the thunder of the avalanche is ever in your ears, and in many places there is a perpetual rain of rocks, barring further progress."

A matter of great interest in connection with mining on the Coast is the introduction of dredging-machines to work the black-sand beaches. About three months ago a Wellman dredge was put to work at the Three-mile, near Hokitika, but owing to the smallness of the pipes, and the plant not being afloat, the work done was disappointing. This gave rise to doubts as to the capabilities of the machines known as "sand-pumps," but those best acquainted with this style of dredge say the principle is right, and the machine will do the work if properly applied.

The first of the ball dredge-machines is now on its way to the celebrated Five-mile, near Okarito. This machine is guaranteed to lift 250 tons of water and sand per hour, 200 water to 50 of solid matter. No doubt a good deal has to be learned before everything works smoothly, so as