

The marble from the Sandy Bay quarry is of excellent appearance, and for medium or small sizes of stone little, if any, fault can be found with it. On the whole, however, it seems matter for regret that a quarry-site with the various disadvantages already mentioned, and only the one advantage of being nearer the sea than other possible sites, should have been chosen, and thus a considerable expenditure incurred for which no return is likely to accrue. The same comment applies to the abandoned quarry near the head of the incline.

Quarry on Mr. Hobson's Land.

The New Zealand Marble and Cement Company, prior to developing the Sandy Bay quarry, opened a small quarry near the head of Holyoake Creek, on land belonging to Mr. Hobson. From this quarry, which is within 2 or 3 chains of the main road over the Pikikiruna Range, and is approximately 1,750 ft. above sea-level, stone for a bank building in Palmerston North was obtained. The cartage of this for the ten or eleven miles to the point of shipment (the mouth of the Riwaka River) must have been an expensive matter. The marble of Hobson's quarry is bluish-grey to nearly white in colour, and in general is of good appearance, but is traversed by flaws and small veins of quartz. Specks of pyrite are not uncommon, and in some bands this mineral is plentiful. Owing to the quarry being near the top of a hill it cannot be conveniently worked to any great depth, nor is it likely ever to furnish large blocks, but medium-dimension stone can be obtained without difficulty. There is no lack of marble in the locality, and unlimited quantities of building-stone in the ordinary sizes, together with a small proportion of large blocks, can be obtained by opening quarries at a lower level than the present quarry.

Marble on Messrs. Hugonin and Henderson's Land.

Not far from Hobson's quarry, on the land owned by Messrs. Hugonin and Henderson, marble, both white and grey, outcrops extensively. In the upper part of Holyoake Creek valley, at points about 1,100 to 1,200 ft. above sea-level, are some promising rock-faces, as well as numerous large boulders of apparently sound rock. The stone is coarsely crystalline and nearly white in colour, without apparent bedding-planes, but traversed by horizontal joints, which will facilitate quarrying. Very little pyrite is to be seen, and iron-stains, indicating the former presence of this mineral, are not prominent. In the interval between my first and second visits two large blocks of marble were partly roughed out, the larger of which appeared to be flawless, whilst the smaller showed one flaw in its central portion.

So far as surface appearances go, the upper valley of Holyoake Creek affords a much more suitable site for a quarry than any locality lower down. The chief difficulty is transport. Connection with the upper part of the existing tramway to the Marble Creek quarry, though possible, cannot conveniently be made. A trial survey, however, has disclosed a fairly easy tram route on the north side of Holyoake Creek leading to a point overlooking the Otuwhero valley, from which a self-acting incline to the low grounds can be made. Thence there is almost flat going to the Otuwhero estuary, where a junction with the existing tramway can be made.

Since my last visit to Sandy Bay the opening-out of a quarry on Messrs. Henderson and Hugonin's land, and the construction of a tramway on the route indicated in the last paragraph, have been begun.

Prospect of obtaining Large Sound Blocks.

Though some apparently solid stone shows in the Sandy Bay quarry (Marble Creek) no definite statement that large sound blocks are obtainable can be made. In any case, it is certain that an immense quantity of material will have to be handled in order to win the large blocks needed for Parliament Buildings. Since the success of a building-stone quarry seems to depend greatly upon its capacity to furnish large-dimension stone when this is called for, the abandonment of this quarry may be deemed a wise step. The prospects on Messrs. Hugonin and Henderson's land in Upper Holyoake Creek valley are far better than those of the Marble Creek quarry, many large blocks being in sight, and the conformation of the valley suitable for opening quarries at several points. If work is to be carried on permanently the installation of modern channelling-machines may be strongly recommended.

Miscellaneous Uses for Marble.

Marble adapted for electrical switchboards, sanitary ware, floor-tiles, monumental work, &c., may be obtained in abundance from the Pikikiruna Range, including the Sandy Bay district. Owing to its great purity the stone is well suited for the manufacture of lime and cement, or, if ground, for use as a fertilizer without previous calcination. At the present time the difficulties of transport prevent any practical suggestion from being made, but if the waste rock from the quarries opened in order to obtain building-stone could be utilized without loss for agricultural purposes or for cement-manufacture, a great advantage would be gained.

Analyses.

The following analyses of Sandy Bay marble have been made in the Dominion Laboratory. Of these the first was given in a report made by Dr. J. Allan Thomson in 1913 (see "Literature"); the others are now published for the first time.