A little to the north of Wiremu Road, not far from the lime-kiln, is a travertine deposit which I did not see. Mr. Looney informed me that it is equal in size and quality to any of the deposits on his land on the south side of Wiremu Road.

Some distance to the north, travertine appears on the north-west bank of Heimama Creek for a distance of over 30 yards. To the west is a swampy area of about 2 acres, and travertine occurs under a part or perhaps nearly the whole of this area, which is roughly 770 ft. above sea-level (as determined by an aneroid observation).

Some distance to the north-west, near the line of Arawhata Road (which is not formed north of Wiremu Road), two pits have been dug in travertine, and one of these shows that the deposit is at least 5 ft. thick.

Farther north, on Mr. H. Bartle's land, a few chains inside the present bush-line, calcareous sinter shows for more than 5 chains (probably 10 chains) along the banks of a small creek draining to the Oanui Stream. Travertine is also seen on the banks of a tributary rill.

What is said to be a large deposit of calcareous sinter has lately been discovered on Mr. S. Campbell's land, nearer to the Egmont National Park boundary than any of the deposits seen by me. I was not able to visit this, no guide being available.

I was also reliably informed that in a large swamp on the line of Arawhata Road, towards the Egmont National Park boundary, several outcrops of calcareous sinter forming mounds have been seen. Deposits of sinter also occur on the banks of the Oanui Stream, west of the upper (unformed) part of Arawhata Road, not far from Bartle's sawmill.

Quantity of Limestone available.—In comparison with most limestone deposits, the calcareous sinters or spring-deposited limestones of the Opunake district are small. Until the various deposits are opened up no reliable statement of the amount of sinter can be made. Yet, since some idea of the quantity available is better than none at all, I give the following very rough estimates as a kind of guide to what may be expected: Mound on south side of Wiremu Road near lime-kiln in subsection 25 (G. Looney's), 2,000 tons; next mound to south, 1,500 tons; mound still farther south (not seen), 2,000 tons (?); Heimama Creek and neighbouring swamp (subsection 28), 5,000 tons (?); deposit seen on line of Arawhata Road, about a mile (?) north of Wiremu Road—no estimate of any kind can be made; deposit on Mr. H. Bartle's land near tributary of Oanui Stream—no estimate can be made, but there are certainly some thousands of tons.

I think one may safely say that at least 10,000 tons of limestone can be obtained from the deposits seen by me. Small though this amount is, it is greater than I expected. How far future exploration will add to the quantity of limestone in sight is uncertain, but from what I saw and was told I anticipate that ultimately not less than 25,000 to 30,000 tons of limestone will be found, and possibly a good deal more.

Value of Deposits.—Notwithstanding the smallness of the deposits, they are worth developing, for they are situated in a district where lime is badly needed. Moreover, they are reasonably accessible, and can be easily worked. Thus, so far as they go, if carefully worked, they will be of great value for the next few years to the surrounding district.

Method of Working the Deposits.—The first thing to be done is to drain the more accessible of the sinter deposits, and to cut such trenches and dig such pits as may be necessary to determine at least roughly the amount of stone in each. Each of the deposits seen by me can be easily drained. The rubbish obtained in working the material should be systematically put in such a place that it will not impede the working-out of the whole of the deposit. The sinter for the most part is fairly soft and porous, so that it can be easily quarried and broken.

Utilization.—The calcareous sinter may be pulverized and used direct as a soil-dressing. I recommend crushing the lumps (after drying) in a portable pulverizer. Electrical power to work this can be obtained from the Opunake Power Board. The drying of the sinter before pulverization will need careful attention. The lumps of sinter could be burned or calcined, but the individual deposits are so small and scattered that the expense of a regular lime-kiln is not likely to be warranted. In any case there will be a considerable amount of fine material that cannot be burnt in a kiln, and also of small stuff mixed with soil, &c., which will be useful for local soil-dressing. The smallness of the deposits makes it necessary to utilize all the material so far as that is possible.

Need for Lime.—The land of the Opunake district is inclined to be sour, and for this and other reasons needs lime very badly. The sinter deposits just described will at best supply the requirements of a few thousand acres for a few years, and will then be exhausted. Ultimately the Opunake district, and indeed practically all Taranaki, must obtain lime or pulverised limestone from outside localities.

Need for Phosphate.—An even greater necessity than lime for Taranaki land is phosphoric acid. Near Opunake basic slag, as used by some of the farmers, has given splendid results, and I see no reason why finely-ground Nauru phosphate, if properly applied in the right quantities and at the right season of the year, should not give just as good results. Now that the railway from Te Roti, south of Eltham, to Opunake is almost finished, and harbour-works are under way, the farmers in the near future will be able to obtain cheaper supplies of phosphate, lime, and other fertilizers.

Conclusion.—If carefully worked, I believe that the deposits of calcareous sinter in the Opunake district will be found to be of great value for the next few years. As already indicated, they are not sufficiently large to supply the whole of the Opunake district with the lime it so much needs.

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