

bentonite, and as a consequence overseas buyers have become prejudiced against all New Zealand bentonite. To obviate a recurrence of this situation it is now proposed that all bentonite for export must be sampled and tested by Government officers and that the material must attain the minimum grade of 90 per cent. by the Sadler test before export is permitted.

*Serpentine.*—There was increased production of serpentine during 1948, 38,637 tons being produced, as compared with 31,933 tons in 1947. Of the 1948 production, 5,362 tons came from North Auckland, 32,855 tons from Piopio, near Te Kuiti, and 420 tons from Mossburn, in Southland. All this serpentine has been used in the manufacture of serpentine-superphosphate, the quantity consumed to date amounting to 243,028 tons, and a continued demand for serpentine for this use appears assured.

*Dolomite.*—In 1948, 6,912 tons of dolomite were produced, as against 7,034 tons in 1947. Of this amount, 6,362 tons were sold in lump form and consumed in the manufacture of soluble-slag fertilizer, but 550 tons were finely ground for use as a fertilizer in the cultivation of tobacco.

*Magnesite.*—From the magnesite-talc deposits of Upper Takaka 540 tons of impure magnesite were mined and finely ground for use as a fertilizer in the cultivation of tobacco. Recent research work at the Mineral Dressing Laboratory of the Otago University School of Mines has shown that the separation from this material of a high-grade magnesite is possible.

*Limestone.*—The quarrying of limestone for various uses, the manufacture of cement, for agricultural purposes, and for industrial purposes is continually expanding and now constitutes one of the more important sections of the mining industry. In 1948 total production of limestone for various uses amounted to more than 1,500,000 tons. There was again a substantial increase in the production of limestone for use in agriculture, 1,091,299 tons being produced for this use in 1948, as against 1,020,810 tons in 1947. It is of interest that over 70 per cent. of this production came from the Southern Inspectorate District, comprising Canterbury, Otago, and Southland, where there are several large producing units that are highly mechanized and whose mining practice is modern in every way. It would appear that the production of limestone for agricultural purposes is still capable of considerable expansion before New Zealand's requirements are fully met. Production of limestone, marl, &c., for the manufacture of cement amounted to 417,660 tons in 1948, as compared with 399,335 tons in 1947. Of the 417,660 tons of material used in the manufacture of cement, 381,319 tons were limestone, 22,395 tons marl, and 13,946 tons silica sand.

Limestone produced for industrial uses amounted to 69,068 tons, of which the greater proportion was used for the manufacture of quicklime and slaked lime, 28,146 tons of these being produced. Other uses were in the manufacture of soluble slag and in sugar-refining. Included in this total are also 1,023 tons of chalk which were used for a variety of industrial purposes.

*Pumice.*—A total of 6,863 tons of pumice, of which 1,735 tons were exported, were produced in 1948, compared with 3,389 tons, of which 2,420 tons were exported, in 1947.

*Clay for Bricks, Tiles, &c.*—In 1948, 159,129 tons of clay for use in the manufacture of bricks, tiles, &c., were produced, as against 150,808 tons recorded in 1947.

*Clay for Pottery, Fillers, &c.*—Production of clays in this class amounted to 17,402 tons in 1948, as against 11,970 tons in 1947.

*Silica Sand.*—During 1948, 16,536 tons of silica sand were produced from deposits at Parengarenga, Hyde, Mount Somers, Pleasant Valley, and Parapara, compared with 14,143 tons obtained from the same deposits in 1947. As in past years, the deposit at Parengarenga operated by the New Zealand Glass Manufacturers Co. Pty., Ltd., contributed by far the greatest proportion, production from this source amounting to 14,113 tons.