

the peak year of wartime production when the State mines were in active production. With the exception of two small parcels obtained from Macrae's Flat, production was confined to the Glenorchy Field. Owing to the exhaustion of ore reserves in this field during the war years, many of the parties have been engaged in prospecting work rather than in active exploitation, and production has suffered in consequence. The arrangement whereby the treatment plant acquired by the Mines Department was leased on a tribute basis continued to provide adequate treatment facilities for this field. With the expectation of continued high prices for tungsten-ores, increased production awaits some measure of success in prospecting-operations and the attraction of additional miners to the district.

*Copper-ore.*—After many years of inactivity, copper-mining was resumed in New Zealand during 1946, when operations were commenced at a copper-ore occurrence at Pakotai, in North Auckland. It was not, however, until 1947 that it was possible to make a shipment to the smelter at Port Kembla, in Australia, when a parcel of 580 tons averaging approximately 13 per cent. of copper, 3 dwt. of gold, and 33 dwt. of silver per ton realized £6,255. Not only did this shipment determine the grade of the ore, but it was also of some assistance to the economy of the country, in that it enabled the import in manufactured form of half of the copper content of the parcel which would have been otherwise unprocurable. Some difficulty was experienced in the shipping of the ore owing to its propensity to heat, and it was realized that future shipments would be dependent upon treatment of the ore by conversion to matte. In order to assist in determining whether sufficient ore existed to warrant the purchase of a furnace, a drilling programme was carried out by the Mines Department. Unfortunately, results from this programme were disappointing, and a geophysical survey of the area carried out by the Department of Scientific and Industrial Research has failed to improve the position, and the future of the property is dependent upon the discovery of additional ore-bodies.

*Iron-ore.*—A total of 6,226 tons of iron-ore were produced from the deposits in North Auckland and at Onekaka for use in gas-purification, in the manufacture of stock-licks, and in the cement industry. It is of interest that the State Iron and Steel Department proposes carrying out large-scale experiments in the smelting of Taranaki ironsands and Onekaka iron-ore by the use of an electric furnace.

*Manganese-ore.*—No shipment of manganese-ore was made during the year, but the tributor who is working Mirandite Products, Ltd.'s mine at Clevedon produced the major portion of a 500-ton parcel of ore which now awaits shipment to Australia.

*Mercury.*—There was again no production of mercury and the property and plant of Mercury Mines, Ltd., has remained on a care and maintenance basis.

*Antimony.*—The present high price ruling for antimony-ores has again directed attention to deposits of these ores in Central Otago, and prospecting-operations are being carried out at three separate localities in this district. So far operations have not progressed beyond the prospecting stage and there has been as yet no production of ore for shipment.

*Arsenic.*—Eight tons of arsenic were recovered as a by-product from the roasting of gold-ores at the treatment plant of the Blackwater Gold-mine.

*Asbestos.*—The mine and plant of the Hume Pipe Co. in the Upper Takaka district continued on a care and maintenance basis and there was no production of asbestos, but resumption of operations was foreshadowed in the company's last annual report.

*Bentonite.*—Of a value of £1,049, 215 tons of bentonite were produced from the deposit at Porangahau, as against 154 tons, valued at £777, in 1946. A treatment plant comprising dryer, grinding plant, and air-float separator has now been installed, and, with some addition to the grinding section, bentonite in a marketable processed form will be available instead of the crude lump sun-dried form previously produced. It is expected that production will increase in consequence of the expanded market available.