Since 1943 the Mines Department has paid increasing attention to this form of mining. For a commencement extensive geological and topographical surveys, followed by drilling, were required to locate suitable areas, define depth of overburden, and facilitate lay out of stripping operations. Shortage of earth-moving equipment was a severe handicap at the outset, but in 1945 the Mines Department was able to import two 5-cubic-yard Bucyrus-Erie electric drag-line shovels, and since these have been put into commission production has considerably increased.

Generally it has not been until 1945 that the full effect of the Department's opencast policy has been felt. In 1945 there were fifty-one opencast mines in active operation, which produced 452,680 tons of coal, a little over one-seventh of the total coal production. Production by opencast mines has increased progressively from 55,774 tons in 1942 to 62,037 tons in 1943, to 196,454 tons in 1944, to the record figure of 452,680 tons in 1945. The greatest proportion of this increase in opencast production has been due to the eight opencast mines operated by the State, none of which were in existence in 1942, but which contributed 257,467 tons, over one-half of the 1945 total. Of these the most important has been Stockton, which produced 104,455 tons of bituminous coal, the type of coal that has been in shortest supply. There are enormous tonnages of coal at Stockton that can be obtained by relatively shallow stripping, and disposal of overburden does not present problems. With the installation of the large-capacity drag-line shovel, capacity to produce has only been limited by transport facilities, and when the aerial ropeway for which tenders have already been called is installed and completed, greatly increased daily tonnages will be possible and a long and profitable life is assured with maximum possible extraction of coal.

While in the case of the larger opencast mines it has been possible either to make use of the screening plants of adjoining mines or provide separate plants and thereby eliminate much inferior material and provide a good grade of coal, this procedure cannot be extended to small-scale opencast mines. There the amount of coal to be won has not justified the provision of screening plants, and as a certain amount of contamination is unavoidable with this type of mining, the quality of the coal has not always been as good as is desirable.

Generally a long life cannot be expected of opencast mines because of their nature, but opencast mining will continue to make a valuable contribution to production during this and the next year, while investigation is still proceeding to allow of the opening-up of additional opencast mines as those now in operation become exhausted.

MINING PRACTICE

Continued attention has been given to means of improving underground mining practice, and to this end two officers of the Mines Department—the Superintendent of the State-controlled mines in the Waikato and the mine-manager of the Wilton State Coal-mine—have recently visited Australia to report on current mining practice there. In particular, attention was paid to methods of mechanization and to hydraulic and pneumatic stowage whereby the proportion of extractable coal can be considerably increased and danger of loss of coal by fire lessened. It is hoped that experiments both in mechanization and in hydraulic stowage will be made in one or other of the State mines at an early date, while the information obtained from this visit can also be turned to account in the layout of the new collieries which the State will open up shortly.

INVESTIGATION OF COAL RESOURCES OF NEW ZEALAND

Work has now been proceeding for some years on a comprehensive investigation of the coal resources of New Zealand. This in great part has been directed by the Coal Survey, whose activities are mainly geological and chemical. To supplement these activities a special organization has been set up by the Mines Department whose operations consist of detailed topographical surveys of selected areas, followed by shallow