

but a small rotary pump has been purchased, and will be driven from the surface by a petrol-engine. Owing to the lack of a pump, places on the west side contain a foot of water, but when the pump is brought into use those places will be extended. From about 3 chains down the dip a narrow place has been driven to the east and is in 25 yards in very good coal. Total output to the 31st December, 1931, was 2,572 tons.

*Riverside Mine* (formerly Tres Bon Mine).—A lease was granted in May to a party of Waronui miners. They drove a level to the south-east from the outcrop. This level is in over 4 chains in fairly good coal, but the seam is dipping ahead at about 1 in 12, so the level is stopped temporarily. Places were driven to the south-west but the seam dips in that direction also. It is now intended to drive from the surface about 5 chains farther south and connect with the face of one of the south-west places. About 3½ chains in the main level a place was driven to the north-east and connected to the old Tres Bon workings. This is used for a return airway. Total output to the 31st December, 1931, was 33,075 tons.

*Essbank Mine*.—Near the Akatore Coal Reserve and McKay's old workings three Waronui miners put down a dip and proved a small workable area of coal over 10 ft. in thickness. The dip commenced at a grade of 1 in 8 but it gradually flattened to a level drive. When 8 yards in a borehole was put through from the main drive into the McKay Mine workings and it was proposed to extract the standing pillars in that mine. Eventually it was decided to extract the Essbank pillars first and when these are exhausted an old drive into the McKay Mine will be reopened and the pillars there worked back from the Essbank goaf. A little prospecting has been done on two outcrops farther north on McKay's land. Output, 2,021 tons.

*Taratu Mine*.—The east side pillars in Barclay's section are nearly exhausted. On the west side a short dip has been driven into an unworked area of about 3 acres where the coal is of good quality, and connection was made to an old level to the north for a return airway. At the new dip section the main heading to the south-east was driven to the dip for 8 chains at a grade of 1 in 4.4. The top seam, 9 ft. thick, was met at 520 ft., and after driving through 3 ft. 9 in. of mixed coal and clay the middle seam, 15 ft. thick, was struck. When 10½ chains in the main heading was deflected to the south to go on the strike of the seam. The return airway is being driven from the surface at a grade of 1 in 2½. Three Hume concrete pipes, 6 ft. in diameter, have been placed at the top of the return. Total output to the 31st December, 1931, was 732,464 tons.

*Lakeside Mine*.—Owing to the difficulty in ventilating it, the crosscut from the bottom of the main dip to connect with the east workings inbye, was stopped early in the year. On account of the slackness of trade only two miners have been working at this mine in places to the south, one in the upper and the other in the lower seam. To the 31st December, 1931, the total output was 10,444 tons.

*Wangaloa Mine*.—The pillaring of the inbye section was completed in July and a dirt stopping 3 yards thick was then built in the main level outbye the goaf. Pillaring was recommenced outside the barrier. To work the coal to the dip from the surface a drive was put in to the north-east and the seam was met 20 yards in; this drive was continued as a dip, the seam dipping ahead at about 1 in 8. Off the top of the dip a level is being driven to the north-west to connect with the old main level. Total output to end of 1931 was 3,843 tons.

*Summerhill Mine*.—Towards the end of the year work was resumed in the main level about 8 chains in from the surface. Tops were dropped and it is intended to rise into the upper portion of the seam, which it is anticipated will be of better quality than the lower coal. A total of 958 tons has been produced to the 31st December, 1931.

*Kaituna Mine*.—A short dip was driven about a chain west of the fallen-in main dip of the workings closed about five years ago. They intended connecting to the top level of the old workings and near its face, but as the seam thinned to 3 ft. work ceased near the end of the year. Total production to end of 1931 was 26,172 tons.

*Kai Point Mine*.—This small mine was reopened in May. A level has been driven to the north from the surface and about a chain west of the entrance to the old workings. The level was commenced in the lower portion of the 16 ft. coal-seam, but, that portion proving of poor quality, the heading was driven through an 18 in. band of stone up into the top coal which, so far, has been fairly clean. A back heading and a place to the west are also being worked and some top coal has been won from the old workings. Total output to the 31st December, 1931, was 3,425 tons.

*Kaitangata No. 1 Mine*.—A large proportion of last year's output was from pillar-extraction in the No. 1 seam, No. 2 section workings, North of Leishman's dip the pillars have all been worked back and the goaf has been sealed off. The inbye north pillars in Kyle's dip area—those to the dip of Leishman's—are being worked. Most of the pillars east and west of Fuller's dip have been extracted and a section to the rise of that area is being worked back towards O'Fee's dip. All the west side pillars, except a row next to the dip, in O'Fee's section have been won, and those near the bottom of the dip and to the east have also been extracted. A dip has been driven, and is down 300 ft., below the bottom level in Kyle's section. The seam was 7 ft. thick at first, but it has thinned to 4 ft. with only a slight dip to the east. Four levels are being worked to the north—the top one is 7 chains in—and three places to the south, the face of the top south place being 3 chains in from the dip. The thin seam south of the main haulage-road was worked until August, when, on account of trade slackening off, it was sealed off. In March only three shiftmen were employed there while in June nine miners were at work in the dip and the levels to the south-west. The seam continued clean and barely 5 ft. in thickness. About 500 ft. up from the bottom of the main return airway and 1,000 ft. down from the ventilating-fan, a level was driven to the north in a seam of coal 8 ft. thick, but containing a band of stone, about the middle of the seam, from 8 in. to 18 in. in thickness. The main north level is in 8 chains, and the band of stone has thinned to 8 in. Development is proceeding east and west, the places to the west being in the bottom coal, 5 ft. thick, below the stone band. At a grade of 1 in 3 a prospect dip was driven to the north-west out of the 8 ft. seam. At 400 ft. down a 6 ft. seam of poor quality was met. When the dip was 200 ft. down a blower of firedamp was struck coming from the south side rib. The blower—although of much less volume—is still active. A connection was made from that spot direct to the return by sinking a 60 ft. shaft from a higher level. Six chains down the dip a place was broken away to the west and is in about 30 yards, but the coal has not improved in quality.

*Kaitangata No. 2 Mine*.—The small area of pillars in the No. 6 section was finished early in the year, and that section was sealed off. Pillaring has also been done in a section of the No. 2 seam from a pair of levels to the south and off the slant dip. As an extension of the slant dip a pair of dips were driven to the north-west, and about 4 chains down a 30 ft. upthrow fault was met. Beyond that fault good clean coal 8 ft. thick was found and there is a good prospect of virgin land to the west containing this seam. Owing to the long haulage and the difficulty of effecting repairs to the steel arches on the main haulage-road it was decided to drive a new dip haulage-road from the surface at a grade of 1 in 5. This drive will be about 1,200 ft. long. It was commenced in November from an old tramway off the road to the coast and will connect to the dip to the north-west and beyond the upthrow fault. Total production from Kaitangata Co.'s Mines to the 31st December, 1931, was 4,884,809 tons.

*Benhar Mine*.—The main dip, down 12½ chains, has not been extended during the year as sufficient places could be found in the north and south levels. From near the bottom of the dip the north level is in 3 chains. Two chains up another level going north has a thick band of stony lignite about 3 ft. up from the floor. A barrier of over a chain in width will be left between this level and the old workings to the rise. The bottom south level is in 3 chains and six other levels are also being driven to the south, the top one being 7 chains in from the main dip. All these places are in good lignite. Total output to end of 1931 was 294,481 tons.