

WEST COAST INSPECTION DISTRICT (Mr. C. J. STRONGMAN, Inspector).

During 1929 the coal-output for the combined Nelson, Buller, Reefton, and Grey districts was 1,290,008 tons, or an increase of 89,169 tons over the year 1928. The output from the Nelson district shows an increase of 5,674 tons, Reefton an increase of 6,474 tons, Grey district an increase of 76,194 tons, and Buller an increase of only 827 tons. The total number of men employed during the year was 3,032, or an increase of 188 men over 1928. The severe earthquake which occurred on the 17th June seriously interfered with coal-production in the Buller district. The mines were closed for a period of fourteen days, and it was some months before conditions in the mining-field again became normal.

BULLER DISTRICT.

Denniston Colliery—Coalbrookdale Mine.—In Waterloo section, Wareatea, the main headings have been advanced in a north-westerly direction for a distance of 12 chains, and panels opened out to the right and left of the headings. No. 1 panel (left) is in good coal 15 ft. to 20 ft. thick. No. 1 panel (right) is in clean coal of fair quality which appears to be thinning going towards Wareatea Creek, where the coal is 9 ft. thick. Two stone bands have made their appearance in the headings; one band is 15 in. thick and one is 5 in. thick. The centre portion of the seam (8 ft. of coal) is being worked between the stone bands. Seven pairs of men are engaged in this section. In McIlwain's section the solid work is nearing completion within the No. 1 (left) panel. In Openshaw's section the third and fourth panels are being formed off the main south headings; the coal is clean and hard, and varies in height from 7 ft. to 12 ft. In the Extended section panels are being formed to the left and right of the main rope-road. Pillar-extraction: Some five pairs of men have been employed extracting pillars from within No. 1 right and left panels, McIlwain's section, where the coal is hard and from 18 ft. to 20 ft. thick. In Openshaw's section pillar-extraction has commenced in No. 2 panel (right), west of the main south heading, in coal from 4 ft. to 14 ft. Pillars are being extracted in the old Extended section towards the outcrop. The coal is of good quality, 16 ft. thick. A start has also been made with the extraction of pillars in the Stone-drive section in coal 7 ft. thick. In No. 8 Cascade the coal is of good quality but is somewhat crushed. In order to lessen the fire risk and safeguard the mine, panels are being formed by building concrete stoppings at strategic positions in the old bords. The pillars are being extracted by driving the places very narrow. In the majority of cases the drives are 6 ft. wide and 5 ft. 6 in. in height, closely timbered. The adoption of the panel system, together with the driving of narrow places, having proved successful, the method is now being adopted throughout. Pumping: With the exception of two electric pumps in Waterloo section and some small hand-pumps in the dips, the coal won is water-free. The field is drained by a tunnel driven from the escarpment.

Ironbridge and Deep Creek Mines.—In the new horse-road, Deep Creek, the bottom seam is being developed. The coal varies from 8 ft. to 12 ft. An average of ten pairs of colliers has been producing coal from this section throughout the year. In the 24-acre section most of the output was obtained from pillars of which only a few remain. In Young's drive some ten to sixteen pairs of colliers have been employed forming and working a panel. Two headings are being extended to form a second panel in the bottom seam towards and underneath Kruger's section; the coal is 16 ft. thick. In Garing's dip during the year two headings were started to develop the bottom seam under Port Arthur section. It is proposed to drive these headings to the boundary and win all the coal on the retreating-panel system. Three shifts of men have been constantly employed at this work, but progress has been somewhat retarded by large quantities of water and faulting. A lodgment of water known to exist between two faults in the top seam was successfully drained off by boreholes. A water drive in coal will provide drainage for the section. The coal, as proved by boreholes, is 12 ft. thick, lying 40 ft. to 80 ft. below the upper seam. In the Kiwi section pillar-extraction is nearing completion. The fire having stopped coal-winning operations in Kruger's section, the old shaft section was reopened to find employment for the men displaced. Eight pairs of colliers are employed extracting pillars. The coal is thick, and as the first workings were wide pillar-extraction is difficult. In the Bluff section the coal thinned and the section was stopped. In Port Arthur section work throughout the year consisted mainly of cleaning up and retimbering old roadways. Prospecting by boring: Three boreholes were put down in the Deep Creek section, and a bottom seam proved to exist 50 ft. to 70 ft. below the top seam. It appears to be soft in places and somewhat limited in extent. A borehole in the 2-acre block was stopped in sandstone at a depth of 227 ft. Ventilation: The old fans at Kiwi were dismantled and a 40 in. sirocco fan installed, thus improving the ventilation throughout the mine. The fire stopping of Kruger's section having done away with the necessity of Druery's fan it was dismantled. Numerous air-samples from the vicinity of the fire stoppings were taken during the year to determine if any leakage was taking place; the results were satisfactory. Stonedusting has been carried out in an efficient manner. A light self-acting endless rope, 20 chains in length, was installed in the Wareatea Extended. The main and tail rope in the Waterloo section was extended for a distance of 10 chains. No fatal accident occurred at the Denniston mines for the year, although there were a number of non-fatal and minor accidents. Earthquake damage: Considerable damage was caused in and about the mine by a severe earthquake on the 17th June, which kept the mine idle for fourteen days. At the brakehead a large slip blocked the top incline. The main haulage plant was completely buried with debris. The brick chimney at the brakehead boiler-house was demolished. New tension gear had to be constructed before haulage could be recommenced, and a temporary chimney was built from iron sheets. The chimney was connected with a small sirocco fan to supply the necessary draught. A number of cast-iron columns supporting the new bin were badly broken, and some fifty had to be electrically welded before the bin could be again used. Several houses near the bin were badly damaged and have since been removed to new sites. On the underground haulage roads heavy falls occurred, and considerable damage was done to the fire stoppings around the Snapps area. Temporary repairs were effected preparatory to the erection of large concrete stoppings.

Millerton Colliery.—During the year the major portion of the output was won from pillar-extraction. In the north-east section pillar-extraction was continued throughout the year. In addition, a small area of bottom coal that had been left behind in the first workings was opened out. In the Mangatina section work was confined to pillar-extraction. Prior to the earthquake the coal was won from narrow drives in the bottom coal, but the earthquake so shattered the drives on the western side of the main heading that they had to be abandoned. It is now proposed to work the full height of the seam, which varies from 25 ft. to 35 ft. In the sixth west and second Mangatina sections the workings having reached the barren area the pillars are being extracted. The first west section has been formed into an artificial panel by the erection of concrete stoppings. The uniform extraction of pillars is causing the roof to break evenly; this should minimize the risk from spontaneous combustion, more especially as the roof-falls pack tightly. In the second west section the work of stopping the top coal and filling in the drive adjacent to the fire area is proceeding steadily. The artificial barrier thus formed has materially checked the progress of the fire. In the third west dip the work of pillar-extraction has proceeded steadily. Towards the end of the year signs of heating became evident in the goaf. Stoppings were erected and pillar-extraction restarted on a line outbye from the heated area. The roof-falls have now reached the surface, and any fresh outbreak of fire will be more difficult to control. The section is now completely enclosed with concrete stoppings, so that in case of emergency the closing of two doors will seal off the entire section from the remainder of the mine. In the middle section a small area of pillars in the western portion of the Mine Creek area is now being divided into artificial panels by concrete stoppings. Doors left in the stoppings provide a ready means of sealing off the sections. The coal at this point is 35 ft. thick. In the fourth west section coal-winning operations have been confined to driving winning-places in the top seam. The coal thins going south and west. In No. 2 dip section work throughout the year has been confined to pillar-extraction in a line with Evans's fire area. In the third west extended, in the southern portion of the field pillar-extraction has commenced. To the west a small block of solid coal is being worked towards the Millerton