

Callaghan's and No. 8 Cascade: The coal from this section is confined to pillar-extraction. The coal is of good quality with a maximum height of 38 ft. Only four pairs of miners employed in this section.

Haulage: During the year an endless rope, 2 in. in circumference and 23 chains in length, was installed in Birchall's section. It is driven by a friction-clutch attached to the main haulage-system. A start has also been made to extend the rope-road in the Waterloo and Extended sections, and a stone drive has been started to tap the field lying to the south-west of the Extended heading.

Prospecting: To prove what is known as the barren area in front of the main heading Extended section five boreholes varying from 77 ft. to 130 ft. in depth have been put down. In the first three coal 16 ft. in thickness was struck; a stone drive  $5\frac{1}{2}$  chains will be required to connect the seam with the present workings.

Developments contemplated: The driving of a stone heading to tap the coal south-west of the present workings; water-drive from Hawkin's drive to drain Waterloo dip; alteration and extension of haulage; installation of haulage-system in Waterloo dip; extension of the present haulage in McIlwain's section.

Fires: During the early part of the year the fire area in No. 8 section caused considerable trouble. During November it burned through a stopping near Boles Jig. A new line of stoppings, 20 in number, was built. Up to date these stoppings have successfully held the fire in check.

*Ironbridge Mine.*—This mine includes the Deep Creek Mine. The bulk of the output has been produced from pillars in the old mine comprising Kruger's section, No. 1 pillar section, and Kiwi section.

In Kruger's section signs of heating were noticed on a fault-line. The coal was much crushed and 30 ft. in thickness. Two drives, one above the other, were driven through the heated coal and the heating dissipated. It is imperative that these drives be maintained.

Deep Creek Section: The coal in this section is of indifferent quality, and a considerable quantity has been left behind as having no commercial value.

Prospecting: During the year three boreholes were put down in the Deep Creek area. At depths varying from 60 ft. to 70 ft. coal and clay were struck. The coal was not of sufficient thickness to permit of profitable working.

*Millerton Mine.*—No extensive development has been carried out at this mine during the year.

In the North-east section pillar-extraction has commenced near the Stockton boundary, eleven pairs of colliers being employed. The average height of coal varies from 6 ft. to 9 ft., and the roof conditions are good. Thus the conditions for a complete extraction of the pillars are extremely favourable, and a large percentage of coal is being won.

The output from the Old Dip pillar section is derived wholly from pillar-extraction. During the year heating occurred in this section. Steps were immediately taken to ventilate the area affected by splitting a pillar and directing a current of air on to the place. The temperature was considerably reduced by this means.

In the Settlement Extended section the main heading is proceeding in a westerly direction, and the outcrop has been reached by drives north and south. The roof conditions have changed during the year and are now much more favourable from a mining point of view. Eight pairs of colliers are employed in this section. The existence of a top seam having been proved, steps are being taken to open it out, and the entrance is now being prepared.

A fire broke out in the Third West (Settlement) section during October. Dams were erected in an attempt to flood the area.

Seven pairs of colliers are employed in the Fourth West Solid section. In the workings proceeding west the coal has thinned and split. Two bands of stone 10 in. and 5 in. respectively are showing in the face, and several places have been stopped. The workings are now being extended south-west.

Ten pairs of colliers are engaged in the North-east section. All solid workings in this section having been finished, the output is now derived solely from pillar-extraction.

Ten pairs of colliers are employed in the Sixth West Solid section on solid workings. The places are being driven from 7 ft. to 12 ft. in height, and from 12 ft. to 18 ft. in width, with pillars 18 yards square. The overburden is shallow, and pillar-extraction will shortly commence.

The old workings on the Millerton side of the Mangatina section have been reopened, and five pairs of colliers are employed, partly on solid and partly in bottom coal.

Pillar-extraction continues in Evan's Daylight section. The coal in this section is approximately 60 ft. in thickness, with an overburden of 90 ft. During the year a fan has been installed, and an extension of the rope-road, 96 chains, to Settlement Extended is contemplated.

*Stockton Mine.*—In the Fly Creek area the main headings have been stopped. It is the intention of the manager to commence developing this area on the panel system, and, with this end in view headings are to be started from the outcrop in Fly Creek. Pillar-extraction in the J Dip section continues. The coal is 20 ft. in height and of good quality, but only a limited number of pillars remain to be extracted. Pillar-extraction in the old mine along the boundary of the Westport Coal Company's Millerton lease, adjacent to the water-drive, continues. During the year the output from this section was considerably increased. The whole of the output in C section is won from pillars.

The carriage of coal by flume from the top bin to Ngakawau, a distance of 5 miles 60 chains, was commenced in September. The box of the flume is built of heart of red-pine, having sides 12 in. and bottom 17 in. The flume is lined throughout with galvanized iron  $\frac{1}{16}$  in. in thickness. Some difficulty was experienced in separating the water from the coal, and a considerable quantity of fine coal was lost. However, it is intended to construct settling-tanks to save the small coal. No figures are yet available to prove the success or otherwise of the scheme.

An electric motor for actuating an endless-rope system has been installed at Fly Creek. A Waddle fan driven by a Boving water-wheel was put into operation during the year in the Fly Creek section, and is giving every satisfaction.

*Westport Main Coal Company's Mine, Granity.*—This small mine adjoins that of the Westport Coal Company's Millerton Mine. To the rise development is proceeding in a north-easterly direction towards the Westport Coal Company's boundary. The main level proceeding east is in good-quality coal, similar to that produced from the Millerton Mine, and varying from 40 ft. to 60 ft. in thickness.

*Clydevale Colliery.*—The aerial tramway, mono-cable system, driven by a 5 horse-power steam-engine, with haulage-rope  $3\frac{1}{2}$  in. in circumference, and a capacity of 40 tons per hour, was completed, and has proved entirely satisfactory for the work for which it was designed. The coal-production from this mine commenced early in June, but almost immediately faulting of the seam caused the cessation of coal-winning. At the end of August, after 3,000 tons of coal had been won, it was decided to extend the aerial tramway to another outcrop further up the hill, a distance of 12 chains south-west of the old bin-site. It is expected to complete this extension during March.

*Cardiff Bridge Mine.*—The workings of this mine are being extended in a north-westerly direction. The height of coal at the working-faces varies from 8 ft. to 12 ft. During the year a flume, one mile in length, was completed, and this flume has done away with the necessity of several horse-jigs and an aerial tramway; in consequence the output from this mine has been considerably increased, and the cost of transport greatly reduced. The only drawback to the fluming-system of transport is the loss of fine coal, estimated, in this case, to be 15 per cent. of the total output. However, it is to be hoped that the installation of suitable appliances will enable the greater part of this fine coal to be recovered.

*Old Cardiff Mine (Dove's).*—During the year coal-winning operations have been extended westerly into Lease No. 5939, and pillar-extraction has commenced. The fire in an adjoining mine, Regan and O'Brien's, is causing the management considerable trouble.

*Old Cardiff No. 4 Mine and Bell's Creek Mine.*—These mines were opened during the year, but only a few tons of coal were won when operations were again suspended.

*Regan and O'Brien's Mine.*—The old mine having been abandoned, prospecting operations disclosed an area of  $1\frac{1}{4}$  acres, west of the old mine, which has been opened out. Only three men are employed.

*Chester and Party's Mine.*—Work at this mine has continued steadily throughout the year. Only two men are employed.