

circumstances. About six weeks later the mine was recovered and operations were resumed, but the heated area has since shown signs of recrudescence. The fire was of spontaneous origin.

*West Coast Inspection District.*

*Liverpool State Colliery.*—Some time between the 4th and 14th May a serious explosion of inflammable gas occurred in the low-level adit being driven to intersect the coal-seams near the junction of Seven-mile Creek. No person had been known to enter the adit for a considerable time, and its entrance had been temporarily boarded off. The origin of the explosion is a mystery; it has been suggested that lightning was the cause, which at first I scouted, but am now more inclined to believe. Firedamp is freely emitted from a coal-seam intersected in the adit. Safety-lamps and permitted explosives had been used prior to the temporary closing of the adit.

*Blackball Colliery* (6/6/21 and 11/6/21).—Fires occurred in bank 6½ and No. 17 section respectively. These were isolated by stoppings. Spontaneous fires frequently occur at this colliery.

*Southern Inspection District.*

*Kaitangata No. 1 Colliery.*—On the 13th October an outbreak of fire occurred in McGhie's level, which resulted in the loss of the whole of the Extension section of the colliery, including McGhie's level, Mundy's and No. 6 districts. The area was permanently sealed off, leaving the 18 ft. seam workings and the airways to the fan shaft as the only open parts of the mine. At this colliery spontaneous fires are of constant occurrence, and cause great anxiety, the mine being gaseous.

Fires also occurred in the following collieries:—

*Très Bon Coal-mine, Milton* (3/1/21).—In consequence the workings of the surface seams were closed.

*Mossbank Colliery* (30/4/21). The section affected was sealed off.

It is satisfactory to report that no fatal or serious accident occurred in connection with any of the dangerous occurrences here reported.

(c.) ELECTRICITY AT COLLIERIES.

(Regulation 160.)

During 1921 there has been an increase in the number or capacity of electrical installations. The following is a summary of the annual returns, in accordance with Regulation 160 (c), regarding electrical apparatus at collieries:—

Number of collieries at which electrical apparatus is installed .. .. .	18
Number of continuous-current installations .. .. .	13
Number of alternating-current installations .. .. .	6
Number of collieries electrically lighted .. .. .	16
Number of collieries using electrical ventilating-machines .. .. .	12
Number of collieries using electrical pumping plants .. .. .	11
Number of collieries using electrical haulage plants .. .. .	8
Number of collieries using electrical screening plants .. .. .	3
Number of collieries using electrical miscellaneous plants .. .. .	7
Number of collieries using electrical locomotives .. .. .	1
Total horse-power employed from motors on surface .. .. .	1,764
Total horse-power employed from motors below ground .. .. .	1,026½

The use of electricity has never been attended by any serious accident in or about the collieries of the Dominion, although several accidents have occurred at metalliferous mines.

(d.) PROSECUTIONS.

During the year nine persons, including three mine-managers and two firemen-deputies, were convicted and fined for breaches of the Coal-mines Act or regulations thereunder. Two lives were lost by reason of the said neglect.

*West Coast Inspection District.*

On the 30th May, James Scott, a fireman-deputy, was convicted and fined £2 and costs for behaving in a violent manner towards another deputy at Blackball Colliery, in contravention of Regulation 69.

On the 30th August, Whalan, a fan-attendant, was convicted and fined £2 and costs for failing to enter the number of revolutions of the fan and the water-gauge in the fan record-book at Coalbrookdale Colliery, in contravention of Regulation 103.

On the 1st September, W. E. G. Hewitson, certificated mine-managr, was convicted and fined £2 and costs for not providing at Coalbrookdale Colliery an automatic indicator registering the number of revolutions of a fan, or an automatic indicator registering the water-gauge, in contravention of Regulation 100.

On the 29th September, W. Saunders, a fireman-deputy, was convicted and fined £1 and costs for failing to keep all detonators issued to him at Coalbrookdale Colliery in a suitable case or box until about to be used in a shot-hole, in contravention of Regulation 125 (5) (b).

On the 12th September, A. Hill, mine-manager by permit, was convicted and ordered to pay costs for failure to store detonators in a proper magazine at Hunter and party's co-operative coal-mine, in contravention of the Coal-mines Act, section 40 (2) (c).