

so from the end of the pillar, and then to work off the stump so formed, erecting props as the roof became exposed. This method naturally resulted in the men having to work well out in the open before the last stump was extracted. Owing to the liability of the seam to spontaneous combustion, it was and is necessary to extract as much of the stump as possible so as to avoid fires. After the fatality Hart and Yates' place was examined and it was found that a fault was running parallel to their bord; the collapse of the roof probably started off this fault. As a result of this accident the system of pillar-extraction at Rotowaro was investigated, and a new method is now practised which will enable the roof to be timbered so that it cannot collapse without warning, and which will do away with the necessity for filling trucks at more than a short distance from the side of a pillar.

At the Waronui Mine a fall had occurred in the return airway quite close to the surface and to the fan. The fan is on a hillside. Instead of clearing the fall, a boxed-in trench was constructed up the hillside on the line of the return airway and an inclined shaft put down from the trench to meet the return airway on the inby side of the fall. On the morning of the 18th September the bottom of this inclined shaft was standing on the laths over the timber of the return airway. On the afternoon of the 18th September the Manager, James Carruthers, and a miner, Joseph Morris, went down the inclined shaft to cut through the laths and connect the shaft with the return airway. The fall in the return airway had caused blackdamp to collect in the return. This blackdamp was released when the close lathing was cut through and quickly filled the inclined shaft, overcoming Carruthers and Morris. Attempts by miners on the spot were made to rescue Carruthers and Morris, but the rescuers were driven back by blackdamp, and a rescue could not be effected till about five hours later, by which time a set of smoke-helmet apparatus had been got from Kaitangata. With the smoke-helmet apparatus both bodies were speedily recovered, but both were dead. Had there been apparatus on the spot when the accident occurred there is little doubt but that both men would have been rescued quickly, and probably both lives would have been saved.

SECTION IV.—WORKING OF THE COAL-MINES ACT.

(a) PERMITTED EXPLOSIVES.

(Regulations 233 to 237 inclusive.)

The following is a table showing the quantity of permitted explosives used and the number of shots fired at New Zealand coal-mines during 1930 :—

Inspection District	Quantity of Permitted Explosives used (lb.).			Number of Shots fired.	Number of Misfired Shots.				Approximate Quantity of Coal produced.
	A2 Monobel.	Ligdynite.	Samsonte.		By Defective Explosive.	By Defective Detonators.	By Defective Leads.	Total.	
Northern (i.e., North Island) ..	151,261	..	..	155,761	2	73	16	91	Tons. 549,896
West Coast (of South Island) ..	191,163	..	186,177	438,320	22	478	156	656	1,279,419
Southern (i.e., Canterbury, Otago, and Southland)	5,689	..	78,599	123,761	7	18	18	43	294,587
Totals	348,113	..	264,776	717,842	31	569	190	790	2,123,902

Eighty-three and a half per cent. of the coal produced in the Dominion during 1930 was broken down by permitted explosive, and the average production of coal per pound of explosive used was 3.46 tons, and per shot fired 2.96 tons.

(b) LIST OF MINES REQUIRED BY LAW TO USE PERMITTED EXPLOSIVES.

The following is a list of mines as at the 31st December, 1930, required by law to use permitted explosives :—

Northern Inspection District.

- Pukemiro Collieries, Pukemiro—Throughout South Mine.
- Rotowaro Colliery, Rotowaro—Throughout No. 1 and No. 3 Mines.
- Glen Afton Colliery, Glen Afton—All sections of the mine, with the exception of A section.
- Waikato Extended Colliery, Huntly.—All sections.
- Renown Colliery, Rotowaro—All sections.