

On 23rd November, 1936, it was reported by the mine-manager of the Burke's Creek Colliery that traces of H_2S had been found in the water pumped out of the main dip extension, which had been flooded for three months. The work of retimbering and cleaning up this dip had been commenced. A lead-acetate test showed a brown colour after fifteen minutes. This section is ventilated directly into the return, and no working-places are there. The only time the H_2S can be found is when the dip extension pump is on, which is about two hours daily.

On 25th November, 1936, Mr. T. H. Lec, Reefton, reported that the fire in the Hi-grade Mine (Morrisvale Lease) had increased. An inspection was made the next day, but it was impossible to go underground as the conditions were too dangerous. On the 15th December it was reported that the fire had been attended to and the tunnels sealed off by shooting in the sides.

On 12th December, 1936, Mr. N. Collins, Reefton, reported that the lower portion of his workings broke through on to the old fire area. The area was stopped off.

On 22nd December, 1936, the occurrence of fire in the goaf at No. 13 bank section, Blackball Colliery, was reported. This fire was sealed off and all material withdrawn.

PROSECUTIONS UNDER THE COAL-MINES ACT, 1925.

Four informations were laid during the year, convictions being recorded in all cases.

A company secretary was charged with failing to store in a magazine or store licensed under the Explosive and Dangerous Goods Act one case containing one thousand detonators as required by Regulation 222 (1) of the Coal-mines Act, 1925, and clause 9 (b) of the Explosive and Dangerous Goods Act, 1908. A conviction and fine of £2, Court costs 10s., were recorded.

A mine-manager was convicted and ordered to pay costs for failing to make a full and accurate report of the result of the examination provided for in section 129 (1) of the Coal-mines Act, 1925, in a book kept at the mine for that purpose.

In two separate cases underviewers were charged with failing to remain underground until the day's work was finished and failing to see that the doors and sheets were closed and all workmen out of the mines as provided for by Regulation 93 of the Coal-mines Act, 1925. In the first case, the underviewer was convicted and fined £2, with Court costs 10s., and in the second case a conviction and fine of £2, with Court costs 12s., were recorded.

SOUTHERN INSPECTION DISTRICT (JOB HUGHES, Inspector of Coal-mines).

I have the honour to submit my annual report covering the activities of mining operations in the Southern District for 1936 :—

At the outset it is pleasing to report increased activity in the chief mining centres. The output from the district shows a gratifying increase of 25,899 tons, and it should be noted that the total output for 1936 is the greatest that has been produced since 1920. In view of the fact that the class of coal produced in the Southern District is almost totally used for domestic purposes (*i.e.*, screened coal) it would seem that the increased output is simply a reflection of the increased ability to purchase by the householder. A further noticeable feature is the fact that the increases are most marked in the coalfields producing the better quality of coal only, the lignite-sales showing a tendency to decrease somewhat. The total number of persons employed at the mines has remained almost unaltered.

The use of hard hats, or helmets, has been continued and slightly extended, but their use has not increased to the extent that results from their use have warranted. There were three distinct cases during the year where the use of these helmets was the means of saving the lives of the three miners concerned :—

- (1) A miner employed at Linton Mine was struck on the head by a piece of coal from $\frac{1}{2}$ cwt. to 1 cwt. He sustained cuts on the forehead only, his helmet being severed from the inner webbing by the force of the blow.
- (2) A miner at Black Lion Mine was pinned by a fall of coal and sustained a compound fracture of the leg. While imprisoned by the fall he relates he was struck on the head several times by falling coal and without head injury.
- (3) A shot-firer at the Kaitangata Mine was struck on the head by a flying piece of coal from a shot, his electric cap lamp was smashed to fragments, and his helmet broken by the force of the blow. He sustained concussion and a slight fracture of the skull.

Having seen the above results I am of the opinion that the helmet is an indispensable item of protection from head injury and should be worn by all miners.

A disquieting and almost alarming feature of the coal position in Southland is the lack of a necessary amount of development and prospecting work. These remarks do not apply to the Linton Colliery. The total output of coal from the Nightcaps-Ohai mines forms almost half of the total production in the Southern District and, when it is considered that at least three of the mines in Ohai (which this year produced a total of 90,000 tons of coal) are within a few years from the end of their life, and at present with no further coal reserves proven, the outlook for the supply of this coal cannot be anything but disturbing.

Several of the larger mines have procured new gas-masks of the rubber type which cover the frontal portion of the face only and to which a hose of from 50 ft. to 100 ft. in length is connected and fresh air propelled along the hose and to the mask-wearer by means of a small hand-operated fan. These masks will be used when sealing off underground fires in a fouled atmosphere. Dust respirators have also been introduced in some cases for the use of persons engaged in underground stone-dusting operations.

I am of the opinion that a more thorough system of preparatory partial sealing-off of areas which are liable to spontaneous combustion could be applied at some mines, and thereby lessen the need of using the above-mentioned appliances save under exceptional circumstances.

CANTERBURY DISTRICT.

Springfield Mine.—Intermittent and more or less haphazard operations were continued on a small scale and without any material results accruing.

Bonanza Mine.—The development of the seam has been continued to the dip for a distance of approximately 4 chains, and several levels have been driven south-west a similar distance. The coal-seam is thinning slightly in the lower workings. During the year a ventilation fan was installed.

Clearview Mine.—A further small area of coal was located and won to the north-east of the old mine, and a commencement was made with a stone-dip drive to intercept the seam at a lower level. This dip was driven a distance of 250 ft. and appeared to be close to the seam; however, more water was being encountered than anticipated, and it is doubtful if the plant installed for this work will be sufficient to complete the project.

Lucknow Clay Pit.—The new level drive has been continued south-west, and the development of this area was continued satisfactorily during the year.

Klondyke Mine.—Development-work has been carried out chiefly to the dip and to the north-east. The main dip-heading has been driven a distance of 450 ft. at a gradient of 1 in 2 $\frac{1}{2}$. The seam at the face of the dip-heading is approximately 17 ft. thick and of good quality. Levels have been driven north-east and the thickness of the seam maintained. Development-work to the south-west indicates that the seam will probably thin and split in this direction. An efficient ventilation fan was installed. Electric current is generated at the mine per medium of a Diesel engine. Operations have been carried out in a workmanlike-manner and the enterprise shown is worthy of success.

Bush Gully Mine.—No further workable coal has been located at this mine. Pillar-extraction has been continued, and practically all the coal in sight had been won.