

Date.	Name and Situation of Colliery.	Name, Age, and Occupation of Person killed.	Description of Accident, and Remarks.
1919. 17 Nov.	Westport-Stockton Colliery, near Ngakawau	James Shearer (38), fireman-deputy	As fireman-deputy he charged and fired a shot at the face of a bord for two miners. The bord was 17½ ft. wide and 10 ft. high; it was timbered by two rows of props with cap-pieces. About five minutes after firing and before the smoke had sufficiently cleared deceased returned towards the face followed by the two miners for the purpose of examining the same as required by Regulation 125. When within 10 ft. of the face a stone weighing several hundredweights fell from the roof, striking deceased and inflicting serious bodily injuries, to which he succumbed the same day. Subsequent inspection showed that the shot had knocked down a prop near the face, which had supported the fallen stone; the dense smoke probably prevented the deceased from observing this on returning after firing. At the inquest the Coroner held no person blameworthy.

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

(a.) VENTILATION.

[Section 40.]

The standard of ventilation required by the Coal-mines Act of New Zealand is stricter than that provided for by the statutes of any other British possession, including the United Kingdom; for whereas other countries provide for either a quality or quantity standard for mine-ventilation, in this Dominion a standard for both is specified by law.

In all coal-mining statutes pertaining to safety in the Empire the following general provision is made that every coal-mine shall be adequately ventilated (this provision had its origin in the British Coal-mines Act of 1860): "An adequate amount of ventilation shall be constantly produced in every mine to dilute and render harmless inflammable and noxious gases to such an extent that all shafts, roads, levels, stables, and workings of the mine shall be in a fit state for working and passing therein."

In the British and New Zealand coal-mines Acts there is further added a standard of quality as follows: "And in particular that the intake airways up to within 100 yards of the first working-face which the air enters shall be normally kept free from inflammable gas: Provided that an abandoned road or level not used in connection with the working of the mine shall, if properly fenced off, not be deemed to be a road or level within the meaning of this section.

"For the purpose of the last preceding paragraph a place shall not be deemed to be in a fit state for working or passing therein if the air contains either less than 19 per cent. of oxygen or more than (1 per cent. New Zealand; British, 1¼ per cent.) of carbon dioxide."*

The British law further provides that "an intake airway shall not be deemed to be normally kept free from inflammable gas if the average percentage of inflammable gas found in six samples of air taken by an Inspector in the air-current (within 100 yards of the first working-place) in that airway, at intervals of not less than a fortnight, exceeds 0.25 per cent." This paragraph, which is not included in the Coal-mines Act of New Zealand, concludes the British ventilation provisions.

In this Dominion the law does not permit any person to work in a place where firedamp may be detected by a safety-lamp. In addition to a quality standard a standard of quantity is required, as follows: "The amount of air passing into the mine shall be such amount as may be prescribed by regulations, provided that in no case shall less than 150 cubic feet of air per minute be provided for every person, and 600 cubic feet of air per minute be provided for every horse or other animal, while employed underground. All air-measurements taken pursuant to the preceding paragraphs shall be taken at the entrance to each ventilating district, and, if the Inspector so requires, at each working-face, and shall at such places be not less in volume than the minimum allowance aforesaid for every person and horse or other animal."

The quantity standard of ventilation required by law of British Columbia, New South Wales, Queensland, and West Australia (which have no quality standard) provides for the supply of not less than 100 cubic feet of pure air per minute for every person employed below ground; in this Dominion the minimum quantity is 150 cubic feet, as before stated.

For the purpose of ascertaining to what extent the provisions of the Coal-mines Act regarding ventilation were being complied with, during the early part of the year I inspected the airways and mine-workings of the principal collieries, taking air-measurements and air-samples for analysis. The points chosen for such measurements and sampling were at the beginning of every return air-course as near to the last working-place as the quantity could be accurately measured at, such position being the most suitable part of a mine for critical examination of ventilation, for the most vitiated air is there found, and all leakage has already occurred before the return is reached.

The result of my measurement and analysis of my samples by the Dominion Analyst, are shown in the following table:—

* United Kingdom Coal-mines Act, section 29; New Zealand Coal-mines Act, section 40.