

COAL FATAL

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
BY W. J. FENE

SUBJECT: Explosion at the No. 4 mine of the Raleigh Coal & Coke Company, Raleigh (near Beckley), West Virginia, December 17, 1940.

An investigation by the Bureau of Mines into the disaster that occurred December 17 at the No. 4 mine of the Raleigh Coal & Coke Company, Raleigh (near Beckley), West Virginia, which killed nine men, disclosed that the explosion was due to an ignition of gas by smoking, it was announced today by Secretary of the Interior Harold L. Ickes.

The investigators reported that at the time of the explosion an engineer employed by the company was making a survey underground and had stationed himself at the point where it is now thought the explosion started. "Burned matches were found near the transit," the report states, "and it is probable that the engineer attempted to smoke and ignited the gas." The report further stated that smoking is a general practice in this mine, and probably every man in the mine at the time carried matches, a practice which is severely condemned by the Bureau of Mines.

Although the Raleigh mine is classed as nongassy, the Bureau of Mines investigators revealed that they had found explosive mixtures of gas at two places underground. Upon testing to determine the quantity of gas liberated in one section of the mine, they found that "a dangerous condition might result should the ventilating current be shortcircuited from the faces of this section for any length of time."

The report also shows that coal dust entered to some extent in the explosion. Evidence was found by the investigators that some coal dust had been ignited and had extended the explosion, although the force of the explosion was not sufficient to carry through the whole mine, permitting 57 men in other sections to escape unassisted. Samples of coal dust taken from the mine, typical of the low-volatile coals found in the area, revealed upon analysis that the coal dust was definitely explosive.

The report commends the mine management for its past good accident record, its use of permissible electric cap lamps and protective clothing, and its plans for adequate rock dusting, but condemns other practices, among which are: the maintenance of the main haulage way on return air, the partial use of black blasting powder which has been shown to be dangerous, the lack of a telephone communication system between the inside of the mine and the surface, and the failure to assure itself that matches and

other smokers' articles are not taken underground.

The authors of the report, W. J. Fene, Mining Engineer, and F. E. Griffith and E. E. Quenon, Assistant Mining Engineers, offer a list of about 35 recommendations relating to ventilation, rock dusting, wetting, the use of explosives, electricity, and miscellaneous practices, in the belief "that their adoption will materially lessen the chances of an explosion occurring in this mine in the future."

In the ~~op~~inion of the investigators, there are four outstanding lessons to be learned from the Raleigh explosion:

1. That every coal mine is potentially a gassy mine. While this mine had operated for about 40 years and no gas had ever been reported, the occurrence of this explosion and the fact that gas was found following the explosion indicates that any so-called nongassy mine can liberate gas.

2. If this mine had been properly rock-dusted, coal dust would not have entered into the explosion and probably a fewer number of lives would have been lost.

3. The fact that the 9 Left heading was the return airway, probably resulted in the death of two or more of those men who were asphyxiated. If the air current had been reversed with the intake on the heading side of the entry, the afterdamp from the explosion may not have affected the men who were in 3 Right at the time.

4. This explosion again demonstrates the inadvisability of using the main haulageway for the return airway. This fact caused some delay in recovery operations and exposed the men who were not in the affected area to the hazards of the afterdamp.



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DEPARTMENT OF THE INTERIOR

INFORMATION SERVICE

BUREAU OF MINES

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A COPY OF THE 34 PAGE REPORT, TOGETHER WITH APPENDICES, TABLES, MAPS AND CHARTS, IS AVAILABLE FOR INSPECTION IN THE BUREAU OF MINES, ROOM 4512, INTERIOR DEPARTMENT (SOUTH BUILDING), WASHINGTON, D. C.