

MNM Fatal 2013-19

- Explosives
- December 4, 2013 (Kansas)
- Crushed Stone Mine
- Lead Man
- 63 years old
- 16 years of experience

Overview

The victim was killed when he initiated a blast and was struck by flyrock. He was standing 153 feet away from the lead holes of the blast. The largest rock that struck the victim weighed approximately 96 pounds.

The accident occurred because management failed to establish safe work procedures for persons to follow during blasting activities at the mine. The victim was using his work cellular phone to video record the blast. He was positioned too close to the blast and was not provided a blasting shelter to protect him from flyrock.



Root Causes

Root Cause: Management did not ensure the driller and blaster communicated to construct the blast as it was designed. Since explosives generate such a large amount of energy (76 million horsepower per pound), the blast construction needed to be accurate and in solid burden. The driller did not report to the blaster the noted poor geology and back break.

Corrective Action: Management developed and implemented a Blasting Standard Operating Procedures (SOP) that includes requirements for a driller's log. The procedures outline responsibilities for safe blasting procedures including explosives handling and blasting security. The driller's log will be used when the driller and blaster communicate regarding any irregularities the driller finds that the blaster may encounter while loading and stemming blast holes. All persons involved in blasting were trained regarding the SOP.

Root Cause: Management did not ensure persons were protected from flyrock from the blast. The victim was recording the blast, standing 153 feet away from it and was not provided a blasting shelter.

Corrective Action: Management developed and implemented a Blasting SOP, addressing the positioning of miners during blasting procedures. Miners will be located at least 1,000 feet from the blast area. The blaster will always be located inside a blasting shelter. The SOP also addresses communications of the blaster with the other miners to clear the blast area before the blast is initiated. All persons involved in blasting were trained regarding the SOP.

Best Practices

- Establish and discuss safe work procedures before beginning work. Identify and control all hazards associated with the work to be performed and the methods to properly protect persons. Task train all persons in safe work procedures.
- Maintain and use all available methods of communication, such as sirens and radios, to warn persons of an impending blast. Establish methods to ensure that all persons are out of the blast area.
- Guard or barricade all access routes to the blast area to prevent the passage of persons or vehicles.
- Before firing a blast, give ample warning to allow all persons to be evacuated.
- Clear and remove all persons from the blast area unless suitable blasting shelters are provided to protect persons from flyrock.
- Verify that the blasting procedures are effective and being followed at all times.