

# MNMF Fatal 2013-03

- Explosives and Blasting Agents Accident
- March 27, 2013 (Missouri)
- Crushed Stone Operation
- Loader Operator
- 61 years old
- 24 years of experience

# Overview

The victim was killed after a blast was initiated. He was in a front-end loader about 30 feet from the base of a highwall. After the blast, broken rock struck the front-end loader and covered it. Almost 10 hours after the blast, the rock was removed from the front-end loader and the victim was recovered

The accident occurred due to management's failure to follow the mine's blasting plan. Work continued in the blast site after the loading of blast holes began, all unprotected persons did not leave the blast area, and ample warning was not provided for all persons to evacuate the blast area.



# Root Cause

**Root Cause:** Management did not ensure the mine's blasting plan was followed. Work continued in the blast site after the loading of blast holes began, the blast area was not cleared prior to initiating the blast, and ample warning was not provided for all persons to evacuate the blast area.

**Corrective Actions:** The mine operator modified the written blasting procedures to include: after blast hole loading begins, work within the blast site will be restricted to blasting operations; ample warning will be given to allow all persons to be evacuated from the blast area; and prior to connecting an initiating device, all unprotected persons shall leave the blast area; no blast will be initiated until there is positive confirmation of the safety of all persons; and all miners will be trained in the new procedures. The drilling, blasting, and loading crews were all trained in these procedures.

# Best Practices

- Do not initiate a blast until it has been determined that all persons have been evacuated from the blast area.
- Establish and discuss safe work procedures. Identify and control all hazards associated with the work to be performed along with the methods to properly protect persons.
- Task train all persons to recognize all potential hazardous conditions, to ensure all persons have left the blast area, and to understand safe job procedures for elimination of the hazards before beginning work.
- 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.
- Before firing a blast give ample warning to allow all persons to be evacuated.
- Guard or barricade all access routes to the blast area to prevent the passage of persons or vehicles.
- Verify that the blasting procedures are effective and being followed at all times.