

Instructor's Guide

ROOF FALL ENTRAPMENT VIDEOTAPE

Dave Garry's Account

This instructor's guide is designed to accompany a videotape of an interview with a miner helper who witnessed a roof fall that covered the continuous mining machine. He discusses efforts that were made inby supports to rescue the trapped, but unharmed operator. He recognizes that danger could have been minimized by installing temporary supports before continuing rescue. The video would be beneficial for use with (1) those who are responsible for ensuring that miners are trained to properly respond to emergencies and (2) anyone who works in a face crew. This guide contains suggestions to help you use the tape as part of an effective training session.

Other Tapes in This Series

There are three videotapes in this series. Each is approximately 12 minutes long and deals with the experience of one miner just before, during, and after a serious roof fall. The individuals on the tapes are not professional actors, but are miners or former miners. The videotapes all follow the same format. First the miner tells about the event and then an interviewer asks some specific questions so that important points will be covered. While all three of the tapes illustrate the dangers of unsupported top, each presents the information with a different focus. Descriptions of the other two tapes follow:

Larry Strayer's Account

Larry tells about a fall that occurred while he and another miner were attempting to bar down top just inby the last row of supports. He explains that the other miner was injured but eventually recovered. Larry, however, lost a leg as a result of this accident. It is stressed that going even a short distance inby supports is not worth the possible outcome of an accident.

Dave Murone's Account

Dave tells about the experience of having to recover the body of a friend who was killed by a roof fall. The individual who was killed was inby supports at the time of the accident. Dave speculates on why his friend was under unsupported top and discusses the effect that witnessing this accident had on him.

Preparing for Class

Read through the rest of this guide and view the videotape to become familiar with the presentation. Review the **Discussion Ideas** section of this guide for help with preparing to lead the class discussion. For more information you may want to look at the items listed below as **Other Resources**.

The only materials necessary for this training session are a VHS player and a monitor that can be clearly seen

and heard by all members in the class. If desired, the pages showing a diagram of the accident scene and the list of discussion questions could be copied to hand out to each trainee or put onto transparencies and shown on an overhead projector.

The videotape can be shown with little or no introduction. However, if the class is not familiar with retreat mining, it may be helpful to explain that on a retreat section coal pillars are completely extracted. In the video when Dave refers to a push out stump, he is talking about the last part of a coal pillar which is removed. Showing the diagram on an overhead may also help class members to understand what was happening at the time of the fall.

The discussion following the videotape is the most important part of the training exercise. One method for leading this activity is to divide your class into small groups and ask them to decide on joint answers to the discussion questions provided in this guide. Give them a limited amount of time to arrive at answers and then ask each group to report their answers to the class. Be sure to leave enough time for the entire class to discuss the responses.

Other Resources

1. Short articles on this subject by Robert Peters and Arnold Love appear in the first four issues of the 1992 *Holmes Safety Bulletin*.
2. Bureau of Mines IC Reports 9283 and 9300. For copies contact Robert Peters at (412) 892-6895.

If you have questions or comments concerning this Instructor's Guide contact Launa Mallett, Bureau of Mines (412) 892-6658.

Discussion Ideas for the Instructor

After viewing the videotape, trainees should be given an opportunity to ask questions and express their ideas and opinions about the material that was presented. They should be encouraged to relate the discussion to their work setting. Questions that may be used to guide the class discussion and information related to each are provided below. Choose questions which are appropriate for the class members and can be talked about within the time that you have available for the session.

1. Should the rescuers have taken the time to support the roof before attempting to help the trapped miner? Why or why not?

Miners should always be trained to set supports before attempting to rescue anyone. This protects the rescuers and the trapped miner. Miners in your class may bring up the point that given the position of the trapped individual with respect to pieces of fallen rock and mining equipment, it may not be physically possible to find a place to set adequate roof supports before rescuing the person. While this may be true and miners sometimes take such risks during rescue efforts, they should never be encouraged to do so. When asked about the availability of posts, Dave explains that they were not far away, and that it would only have taken a few minutes to support the lip of the fall. Dave says, "We weren't thinking, just reacting. We decided to throw caution to the wind and get the miner operator out right away." Train your miners to think about creating a safe area for rescue before taking action.

2. Should the miner operator have been left alone after being rescued from the roof fall?

As Dave points out, "We forgot about Charlie". When we returned we saw that he was shaking and visibly sick. Point out that even if individuals appear to be unharmed, it is important that someone stays with them because shock is a serious threat.

3. Should equipment operators who are protected by canopies attempt to get out and run away from a roof fall?

Canopies have saved many lives. No one we have talked with is aware of any incidents in which a miner under a canopy was killed by a roof fall. If someone in your class knows of such an incident, have that person explain the situation and ask the class if such an incident is likely to occur again. Encourage the trainees to think about and talk about whether they would be safer under a canopy or without one.

4. When you are underground, will you be able to tell if a roof fall is about to happen?

It is not always possible to judge how stable the roof is just by looking at it. Dave points out that he and the others who rescued the miner operator were lucky that

they did not get killed. Although the roof appeared stable after the initial fall, it ended up falling three more times after they had gotten the miner operator out.

As this accident shows, miners sometimes hear or see things that warn them that the roof is about to collapse. However, often this is NOT the case. In the tape, Dave explains that the miner operator told him after the accident that he was focused so intently on his job that he had no idea that a roof fall was imminent. Be sure the miners in your class know that they cannot assume that they will have enough warning to escape from a roof fall.

5. Does your mine have a plan concerning what miners are to do in the event that a roof fall causes people or equipment to be trapped? If yes, what are you supposed to do according to that plan?

This question can be used to determine if each miner understands company procedures for actions to be taken when a roof fall occurs. Discuss who should be contacted and what actions, if any, should be taken by the miners at the scene of the fall.

6. Can you think of one or two situations which might cause you or your co-workers to go under unsupported top? Can equipment or work procedures be changed to prevent that situation from coming up in the future?

Recent Bureau of Mines research has shown that miners often know of tasks that make going under unsupported top more likely. Furthermore, they sometimes think of ways to eliminate that hazard. See the Holmes articles listed in **Other Resources** for more information.

DISCUSSION QUESTIONS for DAVE GARRY'S ACCOUNT

1. Should the rescuers have taken the time to support the roof before attempting to help the trapped miner? Why or why not?

Are temporary supports always available in the sections where you work?

2. Should the miner operator have been left alone after being rescued from the roof fall? Why or why not?
3. Should equipment operators who are protected by canopies attempt to get out and run away from a roof fall? Why or why not?

4. When you are underground, will you be able to tell if a roof fall is about to happen?

5. Does your mine have a plan concerning what miners are to do in the event that a roof fall causes people or equipment to be trapped?

If yes, what are you supposed to do according to that plan?

6. Can you think of one or two situations which might cause you or your co-workers to go under unsupported top?

Can equipment or work procedures be changed to prevent that situation from coming up in the future?

GROUND FALL ACCIDENT STATISTICS 1986-1990

Fatalities	95*
Injuries	4,299
Non-injury accidents	11,288
Total	15,682

**Half of these fatalities occurred under unsupported roof. Ground falls are the leading cause of fatalities in U.S. underground coal mines.*