

# Blasting in Underground Bituminous Coal Mines

Pennsylvania Bureau of Deep  
Mine Safety

# Introduction

- The purpose of this program is to review the Safe blasting procedures for shotfirers in underground bituminous coal mines.

# Topics of Discussion

- Storing Explosives and Detonators
- Examining the Blast Area
- Containers for Explosives and Detonators
- Charging the Shot
- Firing the Shot
- Responsibility After the Shot

# Storing Explosives and Detonators

- In a magazine constructed of non-conductive materials
- Placed in a dry location
- Out of the line of the blast
- Separate magazines for explosives and detonators
- Well rockdusted
- At least 25 feet from roadways and any power source
- On intake air
- Outby last permanent stopping

# Examining the Blast Area

- Visual examination for roof and rib conditions
- Remove any source of electrical current
- Check the area with a blaster's galvanometer for stray current
- Check for methane

# Containers for explosives and detonators outside magazines

- Constructed of non-conductive materials
- Substantial construction
- Separate containers

# Charging the shot

- Check the depth and direction of the bore holes
- Check the depth of the undercut (If used)
- Bring necessary equipment to blasting area
- Determine the amount of explosives needed
- Determine the number and type of detonators
- Make the primers and load the boreholes
- Wire the shot

# Charging the shot

- Check the shot for continuity
- Connect the leg wires to the connecting wires
- Connect the connecting wires to the blasting cable
- Check for methane
- Make certain all persons are clear the blasting area
- Post warnings around the area



# Firing the shot

- Check continuity through the blasting cable (150 ohms or less)
- Sound a warning - **FIRE! FIRE! FIRE!**
- Wire to blasting machine and fire the round
- Shunt the blasting cable
- Allow time for ventilation

# Responsibility after the shot

- Examine the area leading to the blast area for loose roof, ribs and other dangers
- Check for methane
- Check the blast area for misfires
- If a misfire occurs, contact your supervisor

# Few people can say , “ I was injured during an explosives accident ”

- Respect the power of explosives and detonators
- Handle with care
- Keep all wires shunted until wired into the circuit
- Keep detonators away from stray current sources
- Only certified shotfirers who are trained to use explosives are permitted to perform those duties