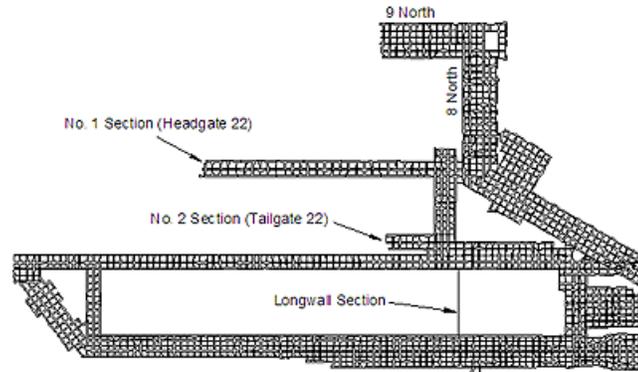




**Fatality #3 through #31 - April 5, 2010**  
**Ignition or Explosion of Gas or Dust - Underground - West Virginia**  
**Performance Coal Company - Upper Big Branch Mine-South**

**COAL MINE FATALITY** - - On Monday, April 5, 2010, 29 miners were fatally injured and 2 miners received serious injuries when an explosion occurred in a large underground coal mine. The victims were located in different areas of the mine, some on their way out of the mine and others were involved with mining activities.



**Best Practices**

The following best practices are generally applicable to underground mining. An investigation is ongoing at Upper Big Branch which will determine the root cause(s) of the explosion on April 5, 2010.

- **EFFECTIVE VENTILATION SYSTEM** - Properly design, frequently examine, and properly maintain a ventilation system that is effective at all times for all areas of the mine. This is the first line of defense against an explosion. Maintain proper air quality in bleeders for examiners.
- **ADEQUATE ROCK DUST** - Apply rock dust liberally, even in wet areas, in all faces and outby areas. Maintain the applications to prevent the propagation of coal dust explosions.
- **PROPER EXAMINATIONS and IMMEDIATE CORRECTIVE ACTIONS** - Conduct proper pre-shift, on-shift, supplemental, and electrical examinations. Immediately eliminate hazards involving inadequate ventilation, insufficient rock dust, methane accumulations, and permissibility violations.
- **METHANE AND OXYGEN CHECKS** - Make frequent methane and oxygen measurements, especially during periods of rapid decline in barometric pressure.
- **COMBUSTIBLE MATERIAL** - Clean up loose coal, coal dust, and other combustible material. The possibility of an explosion or fire can be diminished by reducing the fuel supply.
- **WATER SPRAYS and DUST COLLECTORS** - Water sprays and dust collectors reduce the fuel available for a potential fire or explosion.
- **ESCAPEWAYS** - Conduct escapeway drills and maintain escapeways in safe condition and assure that lifelines are being maintained.
- **ATMOSPHERIC MONITORING SYSTEMS (AMS)** - Utilize AMS to monitor strategic locations for carbon monoxide, oxygen content, methane content, and air volumes.