

BLOW IT UP TO MAKE IT SAFE

Coal Dust Explosion Suppression

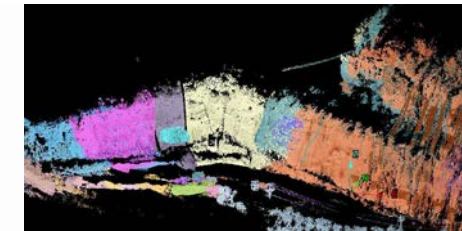
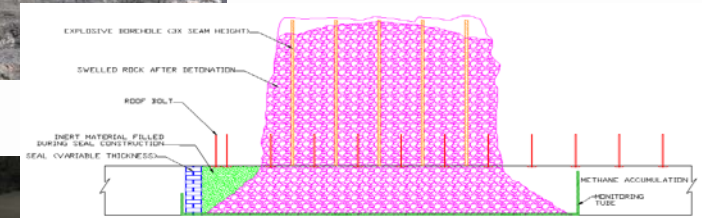
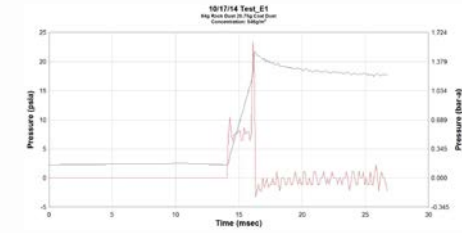
- Different Rock Dust Types (Wet/Dry/Hydrophobic/Foaming)
- Need to limit Respirable Dust to Workers (limits implementation method on intake airways)
- 'Caking' of rock dust limits its explosion suppression abilities

Highwall Stability Concerns from Blasting

- Blasting Vibrations Possibly Causing Failures
- Frequency More Important than Amplitude (PPV)
- Instrumented with Seismographs and Laser Scanner

Coal Mine Seal Designs

- Must resist 50 or 120 PSI Explosion
- Roof/Floor/Ribs interface strength is vital
- Plug vs. Flexural



**Exploring Explosives Related Topics in the Mining Industry
Carrying the Expertise forward into all Explosives Applications**

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- National Institute for Occupational Safety and Health
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Keywords

- #Explosives #Energetics #Defense #Offense #Rockdynamics #Groundcontrol #Fireworks

Recognitions

- 3 Time SME Outstanding Student Chapter Faculty Advisor
- Professional Engineer
- Licensed Blaster