

# GROUND CONTROL

*Where the Mining Industry is Today*

PENNSTATE

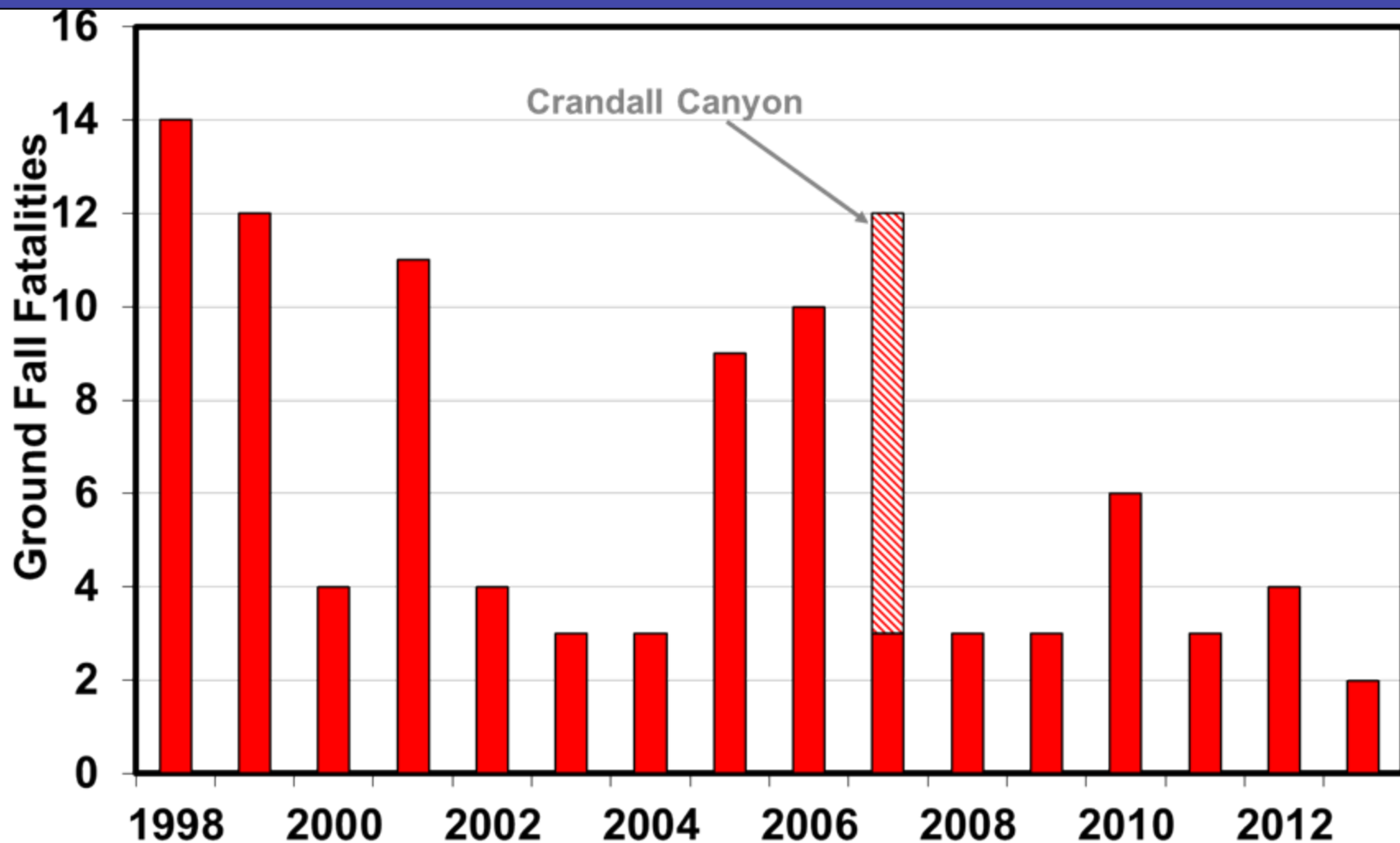


U.S. Department of Labor

**MSHA**

Mine Safety & Health Administration

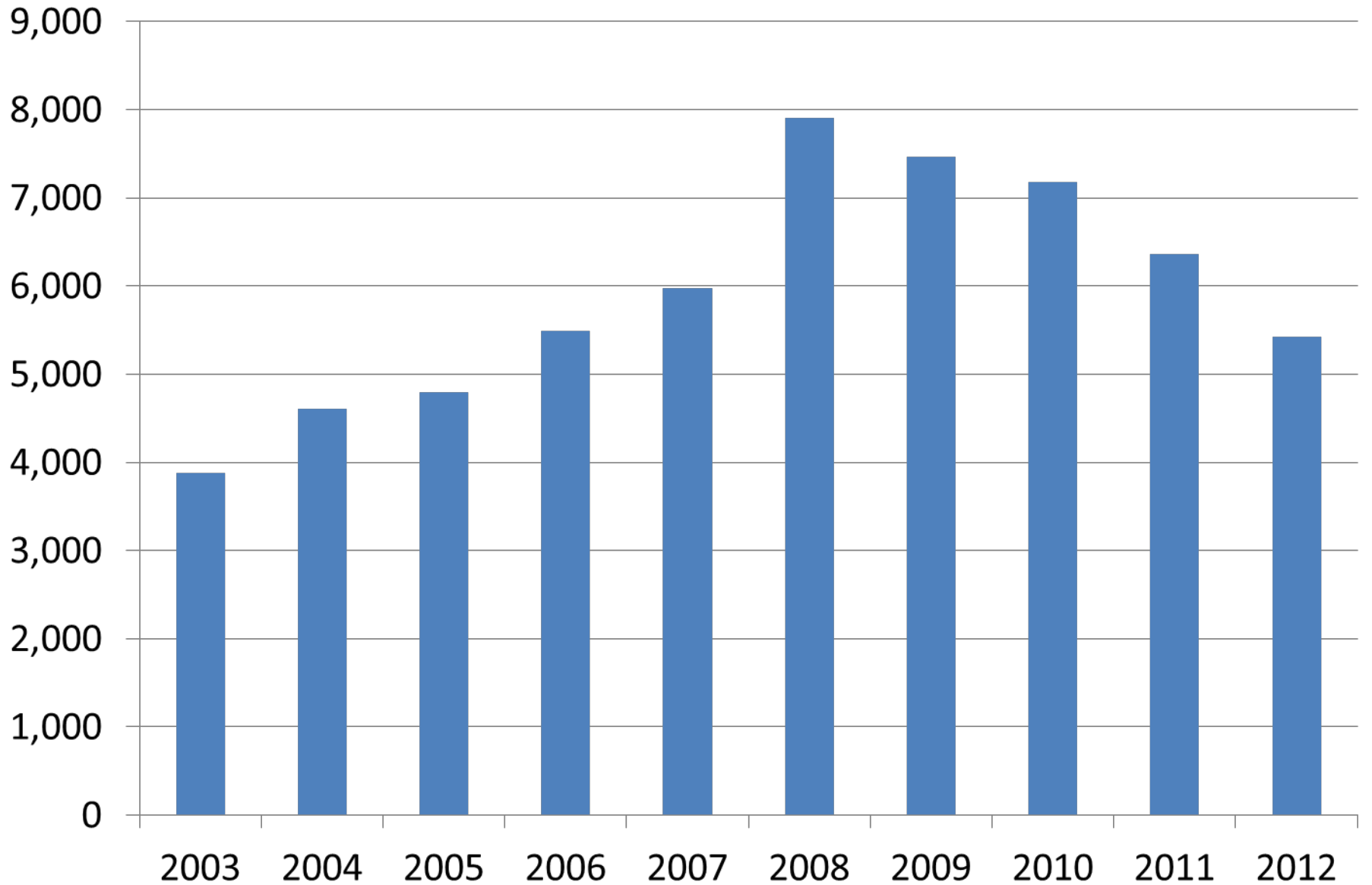
# Roof/Rib Fatalities: Nationwide, 15 Years



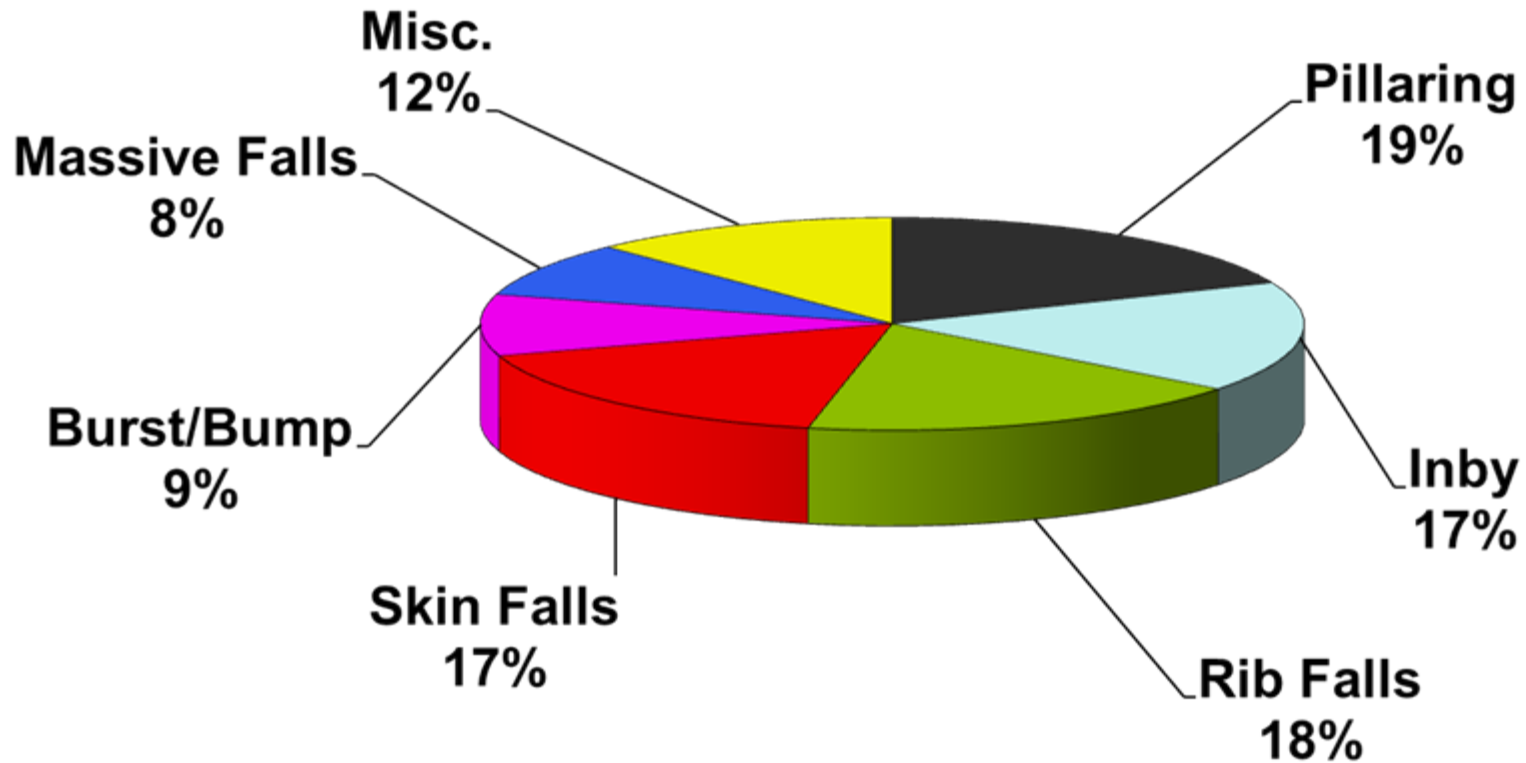
# CRANDALL CANYON MINE DISASTER



# Number of 75.200 Series Citations and Orders

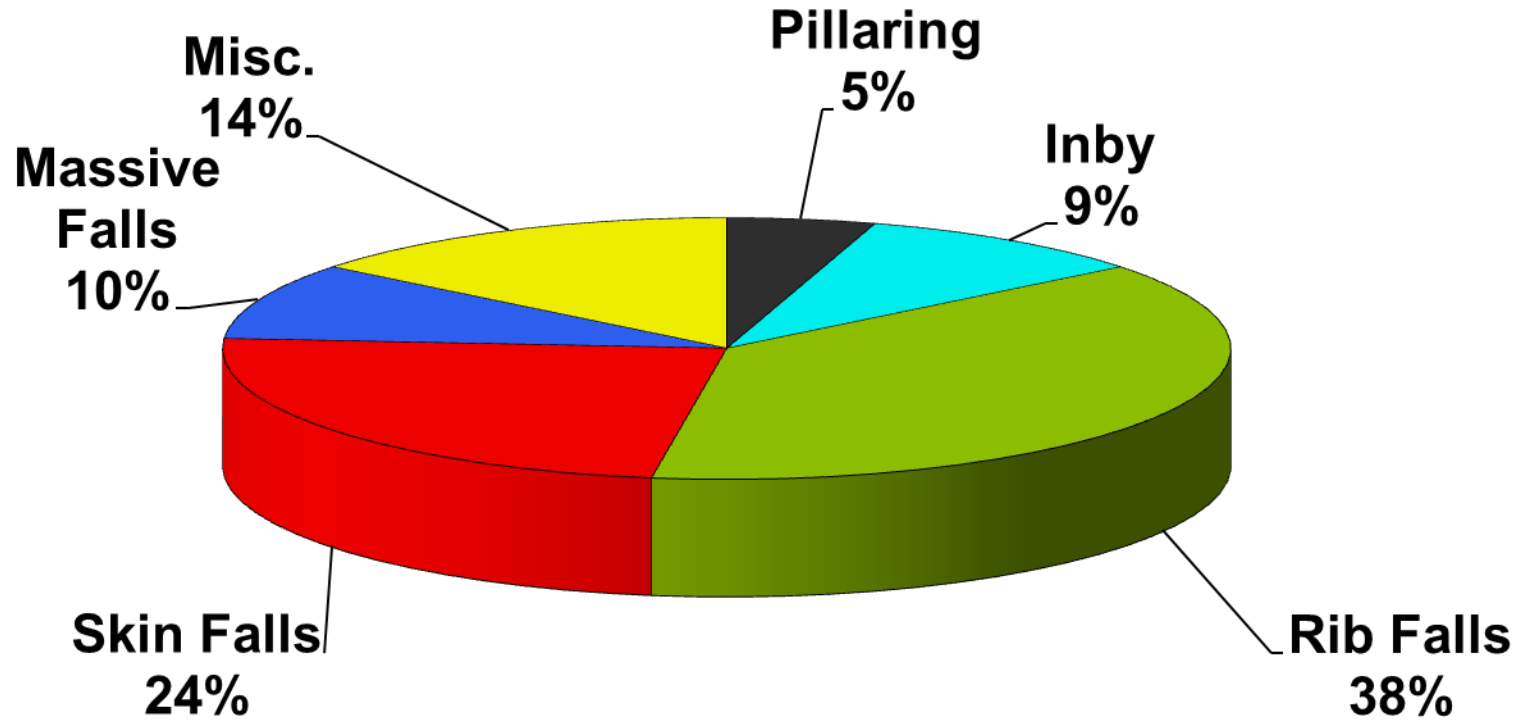


# Roof/Rib Fatalities, 1998-2013



N=107

## Roof/Rib Fatalities, 2008-2013

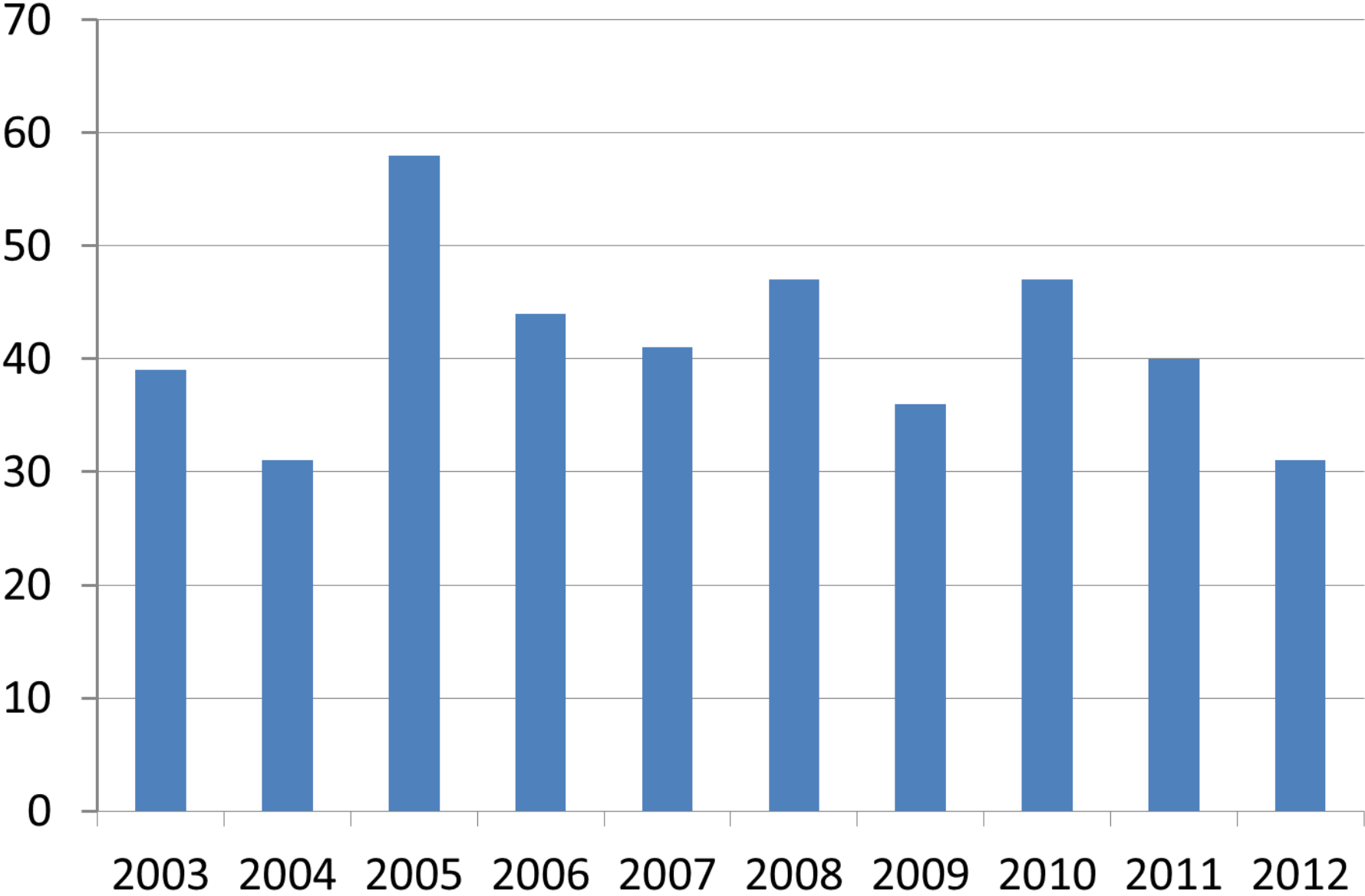


N=21

# INBY IS OUT!



# Citations for Violations of 75.202(b)

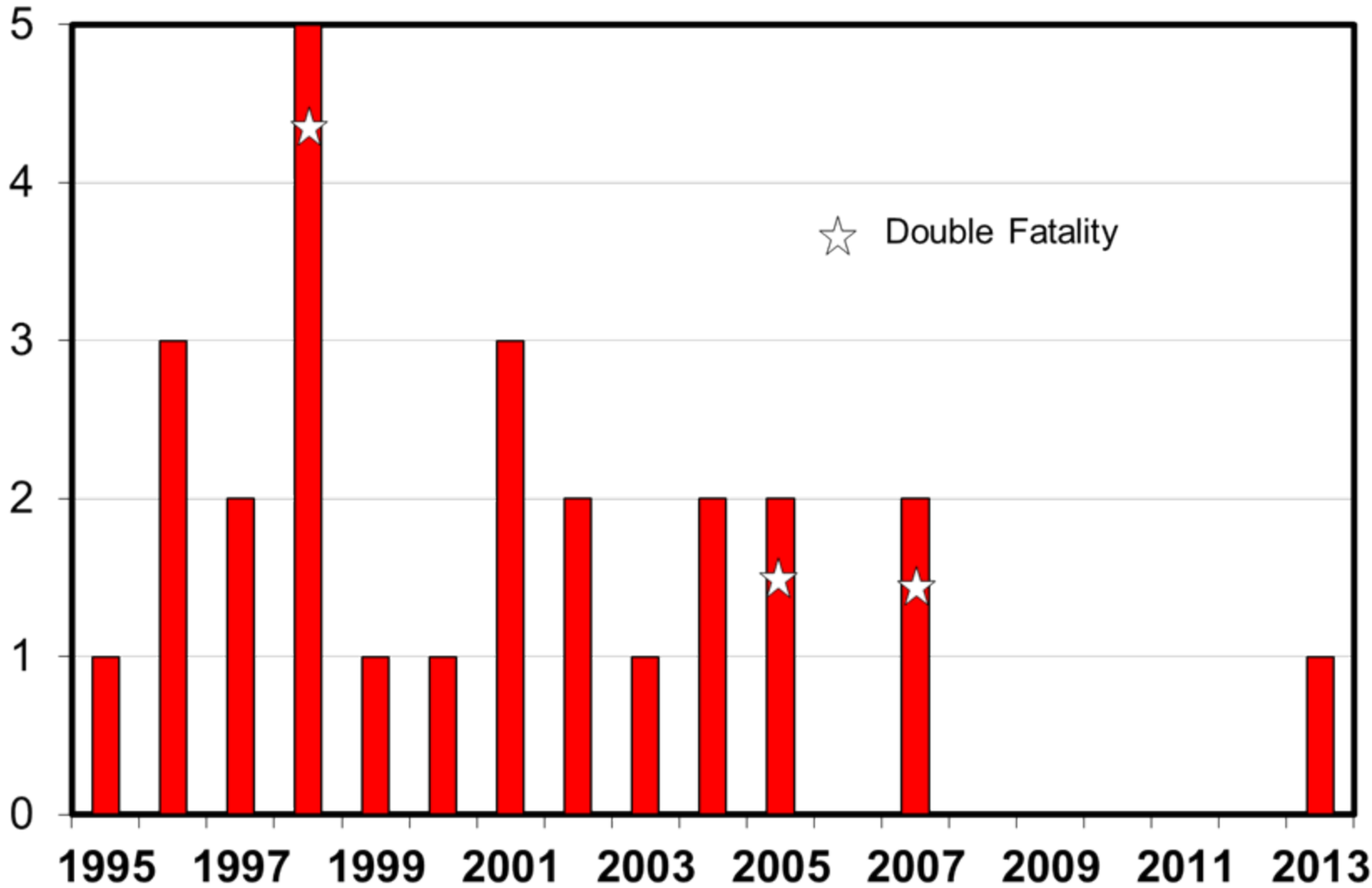


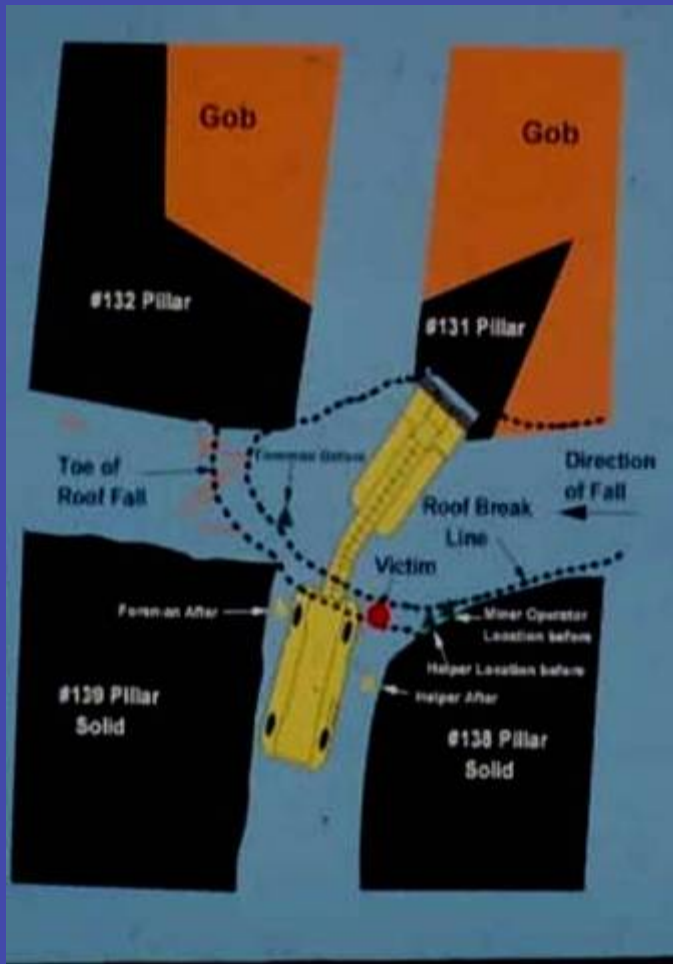


# Roof Fall Fatalities during Retreat Mining



**Pillar Recovery Roof Fall Fatalities**





Use extra roof bolt support

Mobile Roof Supports



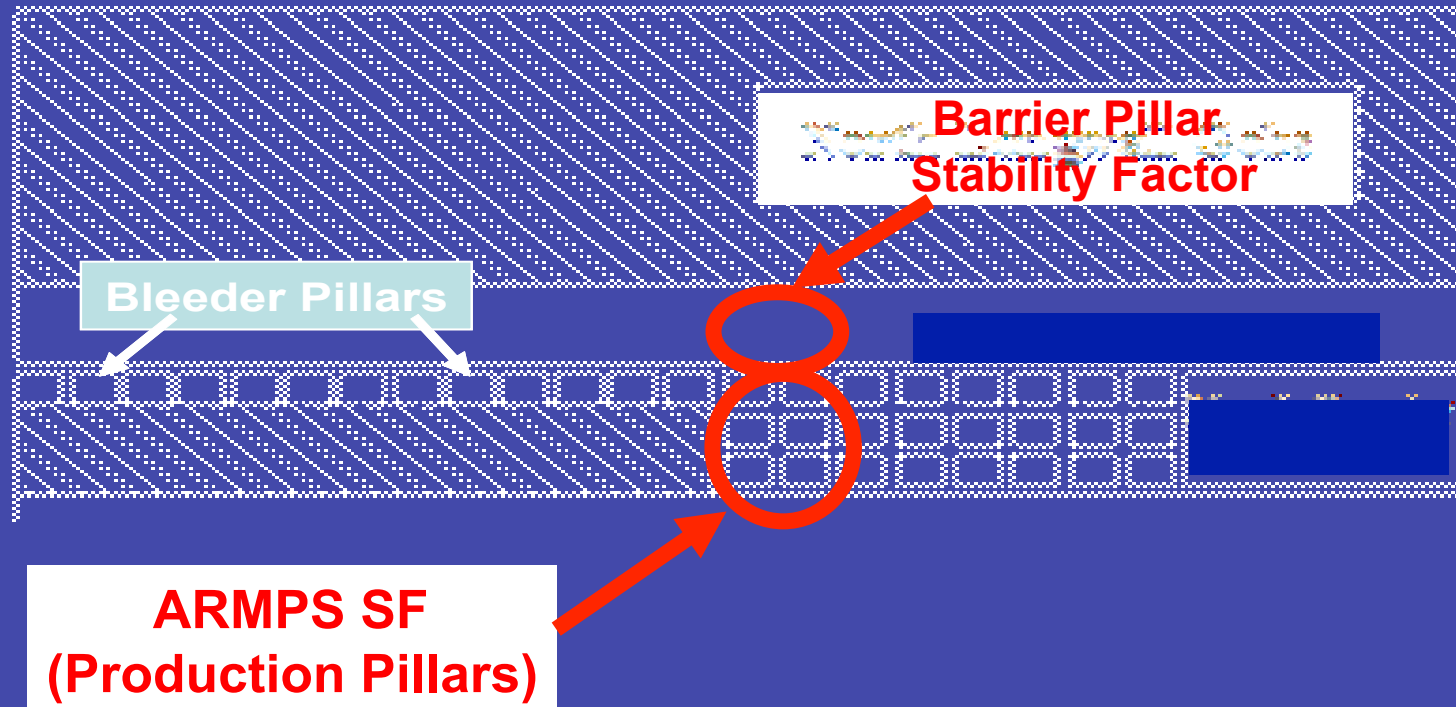
Leave the final stump

**Technologies that made the difference**

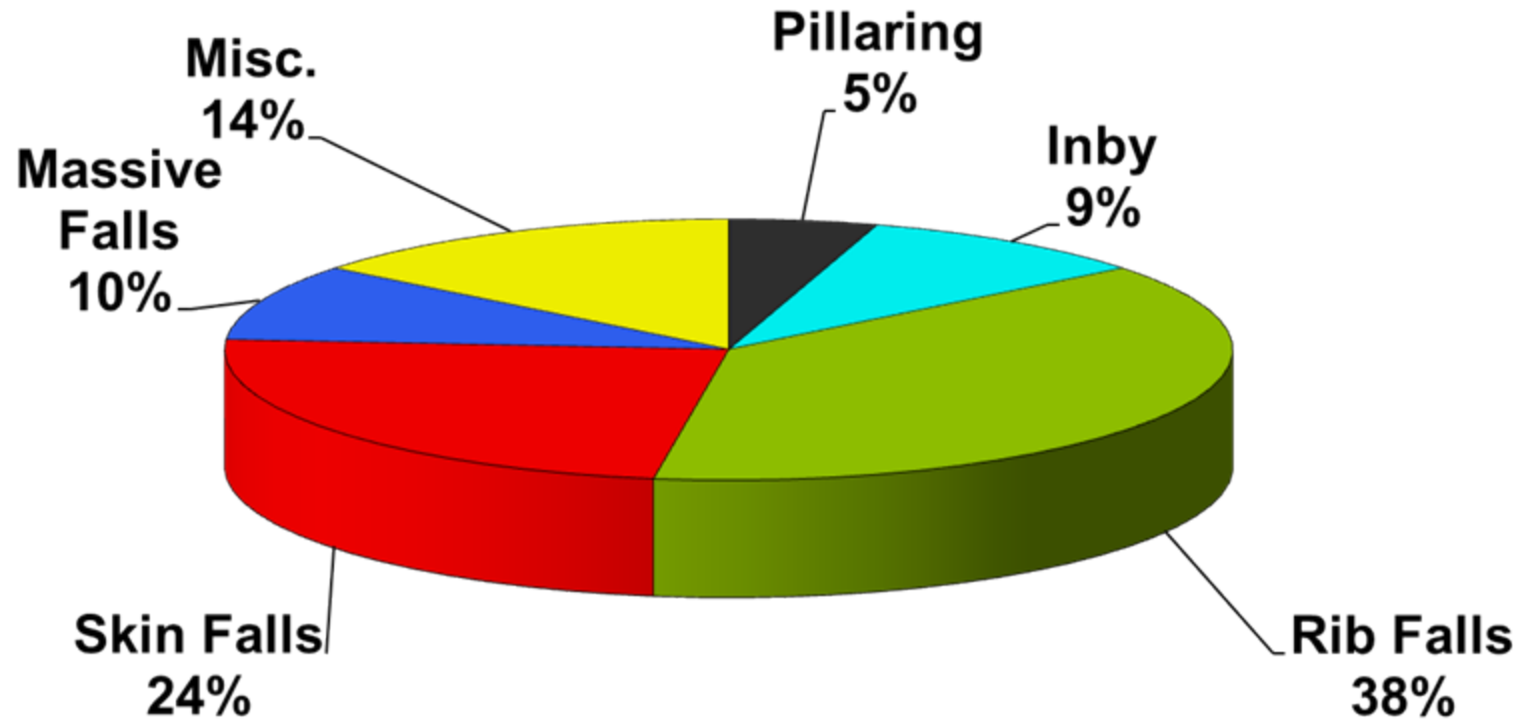
ARMPS v6 (2010)



# PILLAR DESIGN



## Roof/Rib Fatalities, 2008-2013

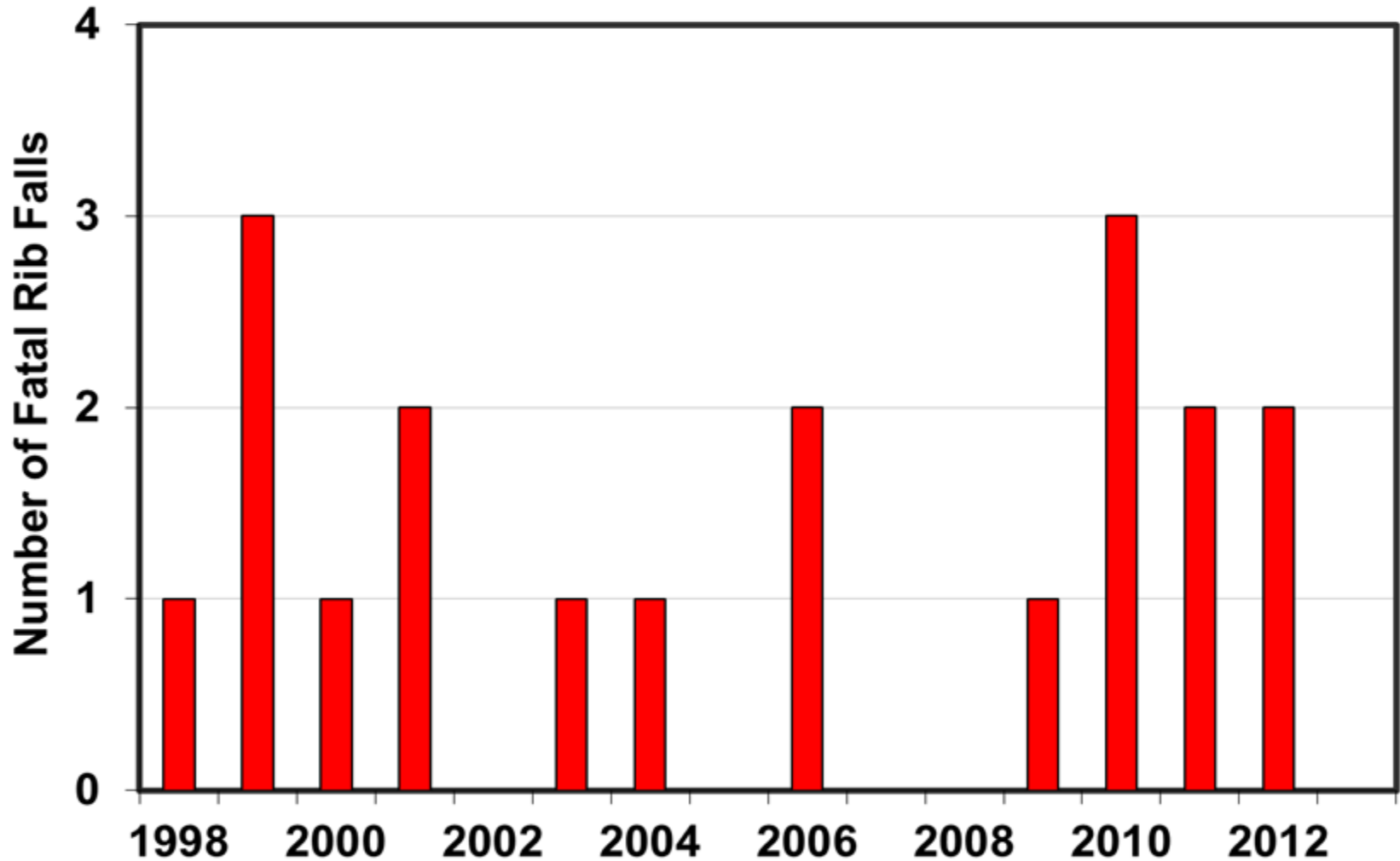


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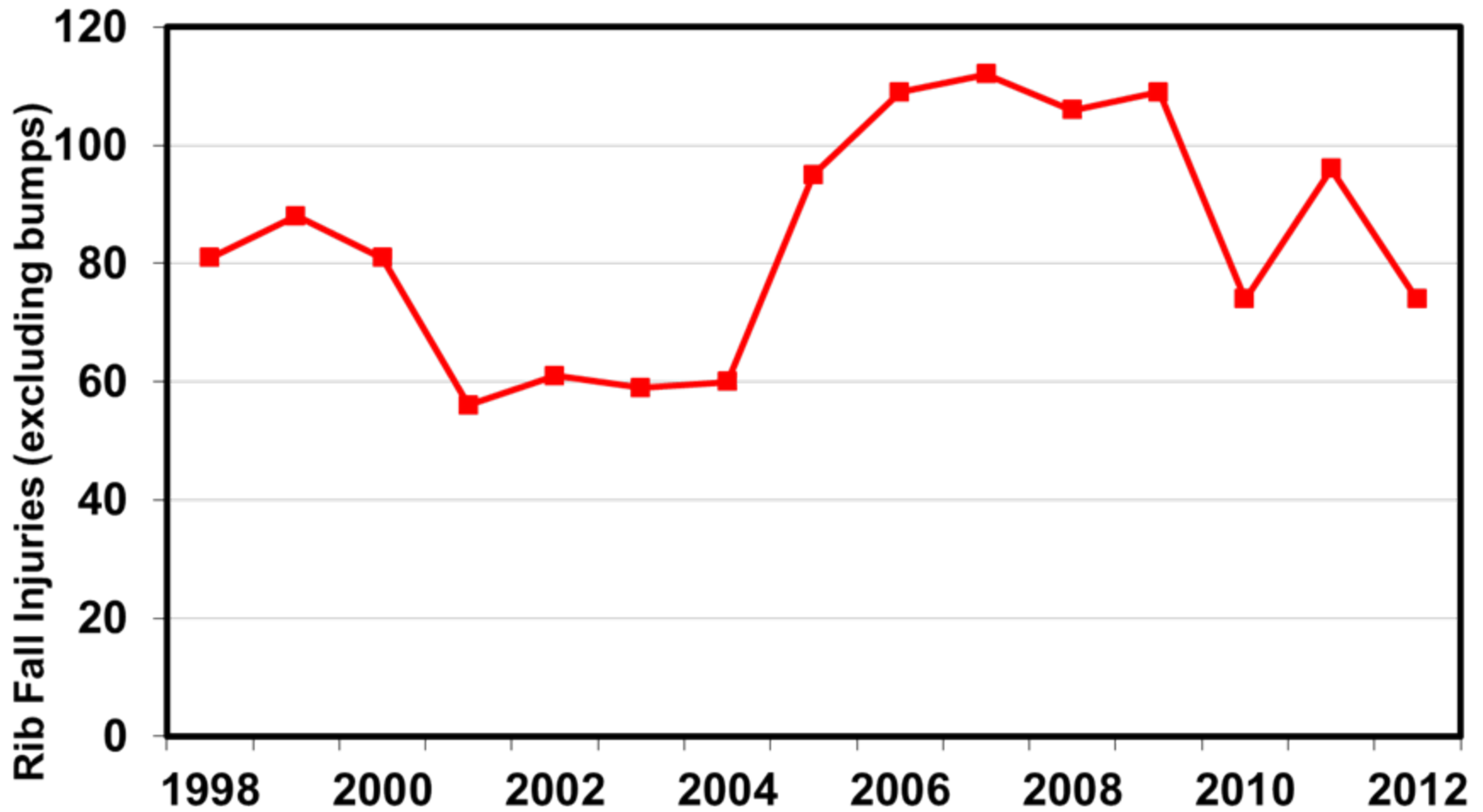
# Rib Falls



# RIB FALL FATALITIES

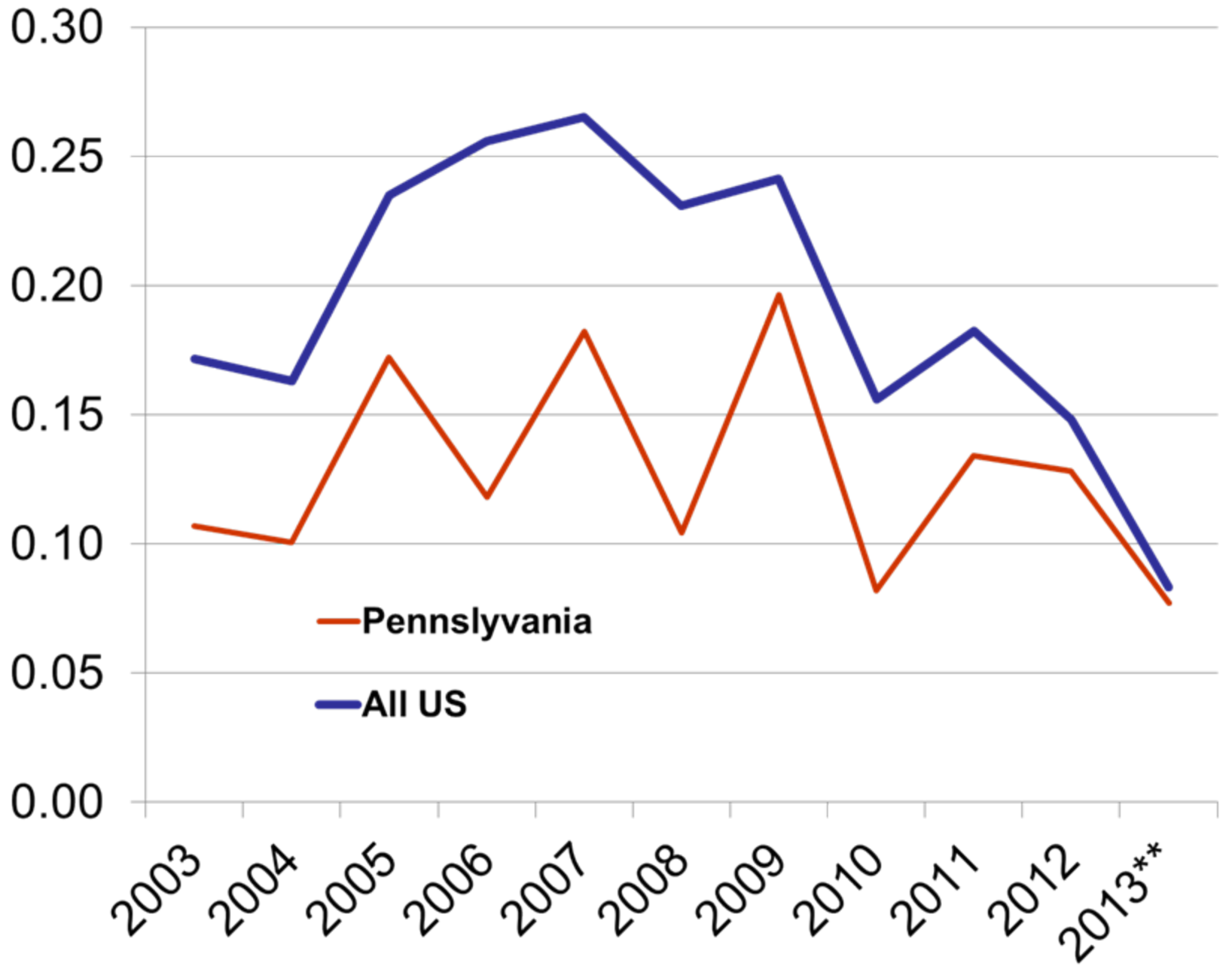


# RIB FALL INJURIES





**Rib Fall Rate per 200,000 hrs  
worked**





Preventive Roof/Rib Outreach Program (PROP) 2012

**CHECK THE RIBS!**

U.S. Department of Labor Mine Safety and Health Administration

Greater mining height increases the rib fall hazard.



Deeper cover also increases the hazard.





**Rib bolting is the best way to protect miners from rib falls.**



**Roof Falls Above Anchorage**

# PPL P12-V-03 Changed the definition of reportable roof falls



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DEPARTMENT OF LABOR

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- Protecting Miners' Safety and Health Since 1978

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U.S. Department of Labor

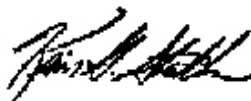
Mine Safety and Health Administration  
1100 Wilson Boulevard  
Arlington, Virginia 22209-3939



EFFECTIVE DATE: May 11, 2012

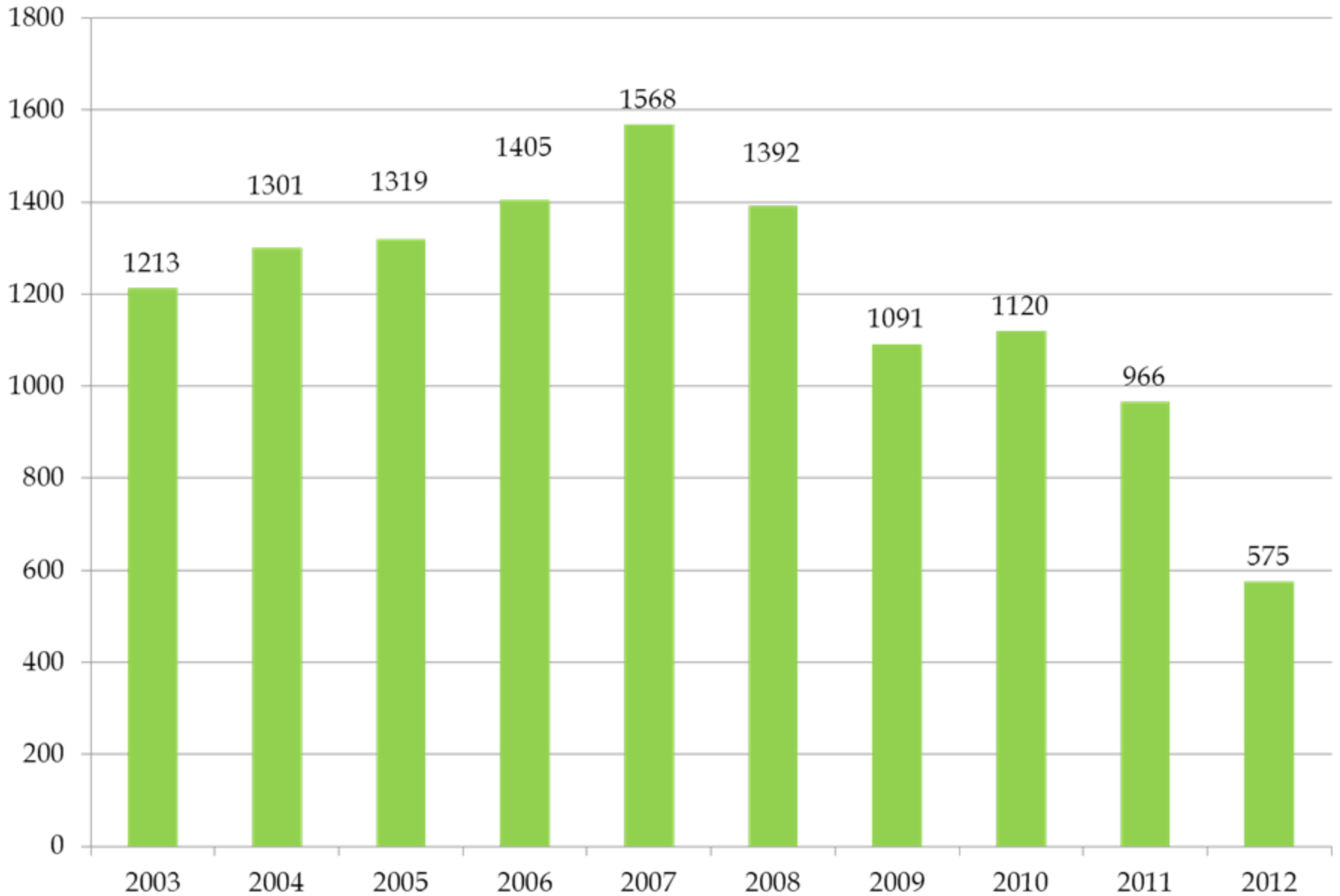
EXPIRATION DATE: 03/31/2014

PROGRAM POLICY LETTER NO. P12-V-03

FROM: KEVIN G. STRICKLIN   
Administrator for  
Coal Mine Safety and Health

SUBJECT: Reporting of Unplanned Roof Falls in Accordance with  
30 C.F.R. § 50.10

## Non Injury Roof Falls 2003-2012

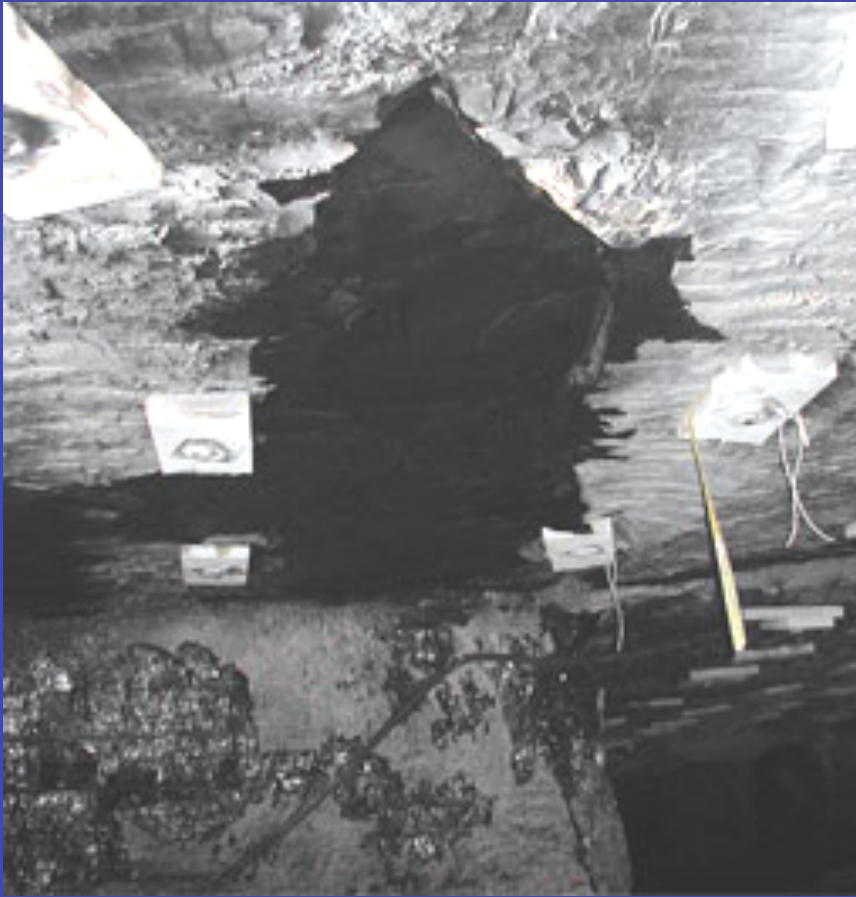


# Extra support has made a difference

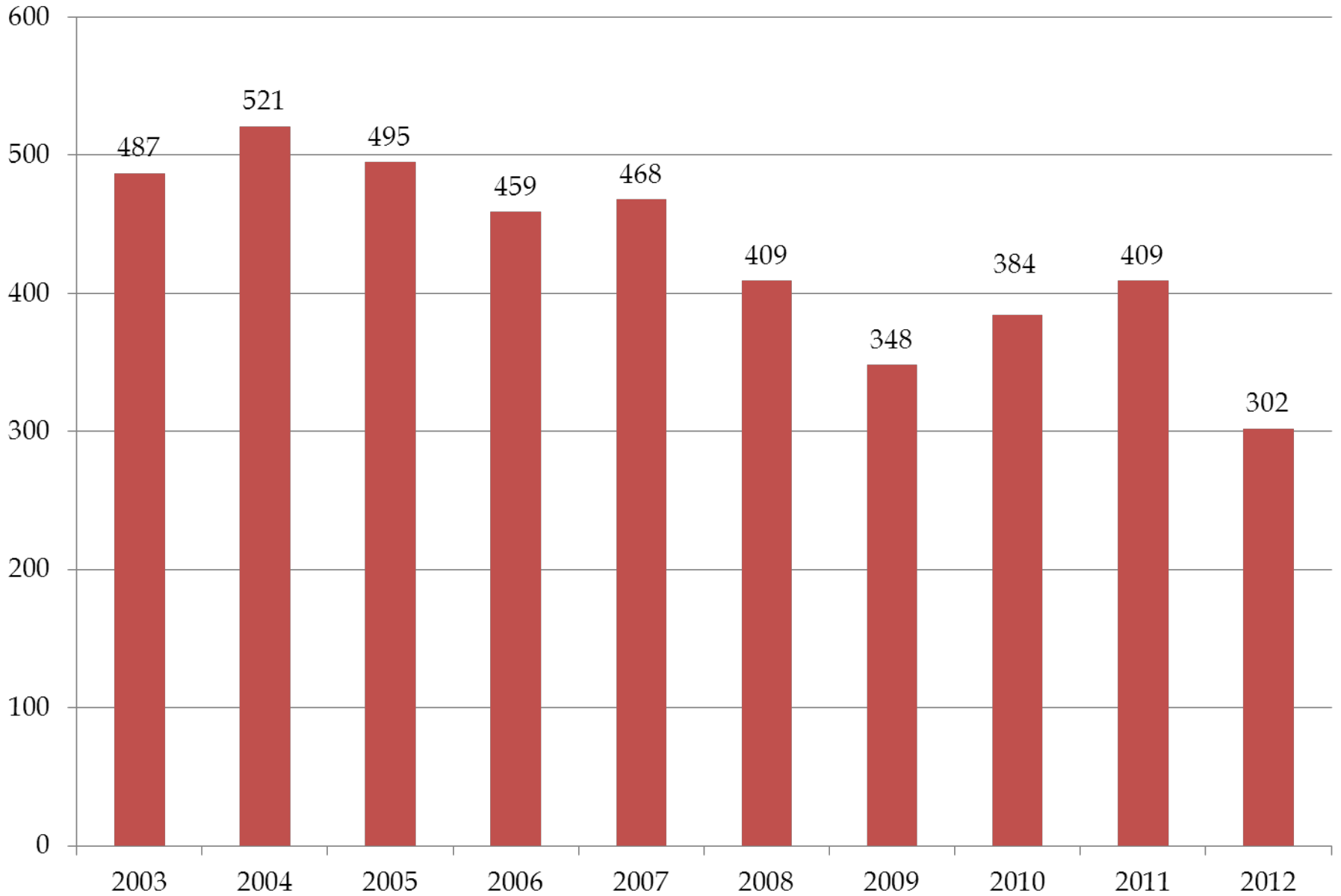




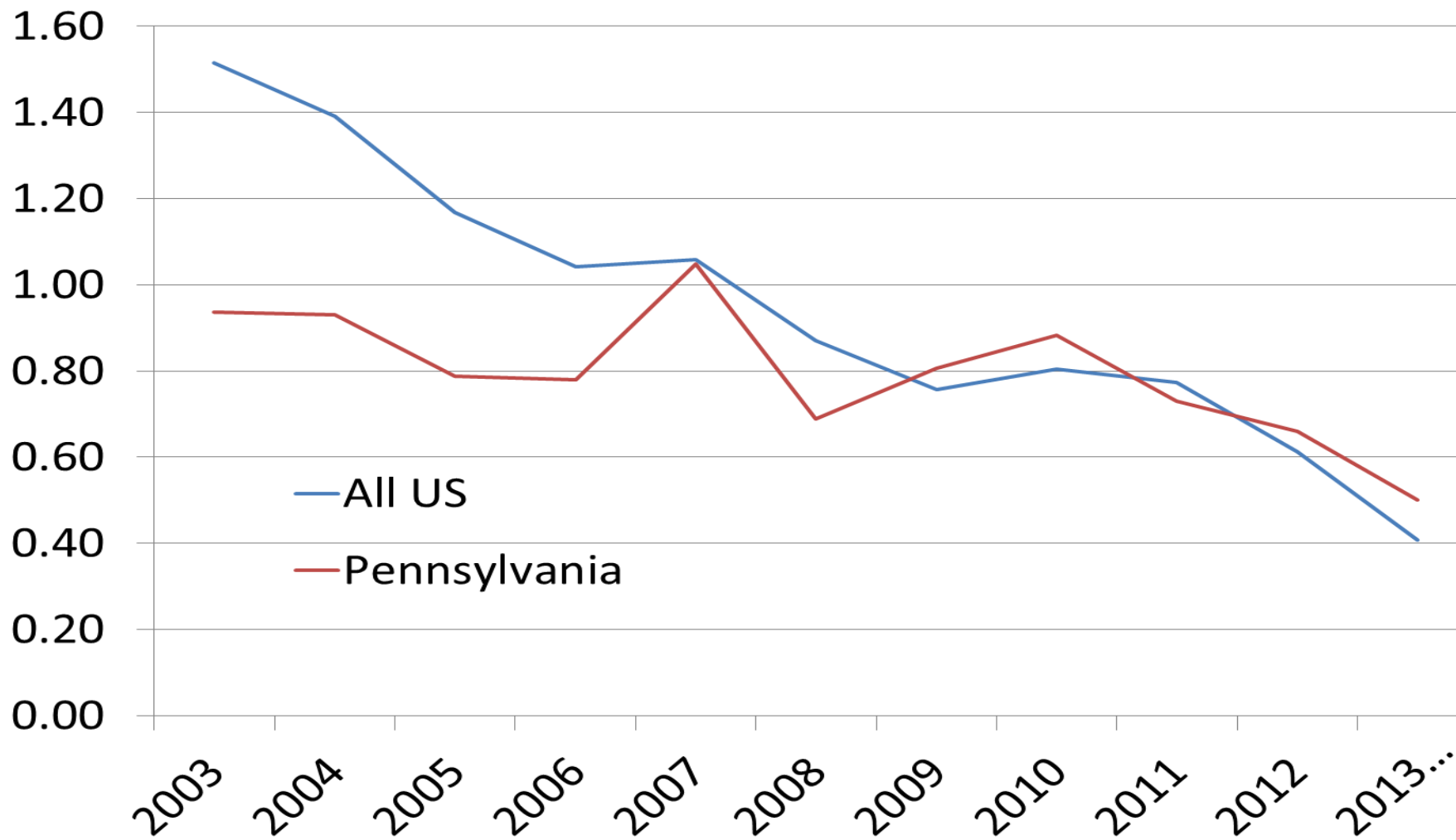
**Skin fall injuries  
caused by rocks  
falling from  
between supports.**



# Roof Fall Injuries 2003-2012



# Roof fall injury rates: US and PA (10 years)





**Surface coverage helps prevent skin falls.**





**SUPPORTED ROOF: 1960**

# *PROP 2013*



*Focus On Roof Bolter Safety*

Focus On Roof Bolter Safety:  
“Roof Bolter Roof Fall Injuries”



Preventive  
Roof/Rib  
Outreach  
Program

**2012 ACCIDENT  
STATISTICS:**

**145 ROOF  
BOLTER  
OPERATORS  
INJURED BY  
ROOF FALLS**

**20  
ADDITIONAL  
ROOF BOLTER  
OPERATORS  
INJURED BY RIB  
ROLLS**



Over 95% of the 145 roof fall injuries to roof bolter operators in 2012 occurred after the ATRS system had been set.

Remember, just because it's supported doesn't necessarily mean it's safe!

- Examine your workplace— look and sound for drummy roof
- Scale – both the roof and ribs
- Maximize the canopy protection— use swing out extensions where available
- Don't place hands on the drill boom— they seem to be a magnet for falling roof!





Focus On Roof Bolter Safety:  
“Hands-off Drilling and Bolting”



Preventive  
Roof/Rib  
Outreach  
Program

2012 ACCIDENT  
NARRATIVE:

VICTIM  
ATTEMPTED TO  
HOLD ON TO  
BOLTER WRENCH  
WHILE  
REVERSING  
ROTATION IN  
ORDER TO  
REMOVE A BENT  
BOLT

THE WRENCH  
SNAGGED HIS  
GLOVE,  
FRACTURING HIS  
LEFT ARM



- In 2012, there were over 30 reported “hands-on” accidents involving a rotating steel or bolt  
*If one hand is on the steel or bolt,  
Remove your other hand from the controls!*  
  
*If one hand is on the controls,  
Remove your other hand from the steel or bolt!*
- There were also over 70 “hands-on” accidents involving machine pinchpoints
- An additional 36 operators were injured by “stuck” drill steels free falling

# QUESTIONS?

