

# Safety In The Quarry

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Improving Processes. Instilling Expertise.



# What's Your Motivation For Safety?

- Increased Profit
- Reputation
- Competitive Edge
- Regulatory Compliance
- Public Relations



# Best Motivation.....

2007



Conference





These are our reasons  
for working safely  
every day....



What are yours?



Many lives will be affected if you do not come home safely ...



**EVERY**



**day.**





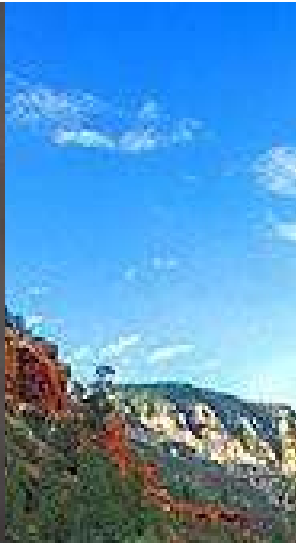
Always think SAFETY for yourself

And for

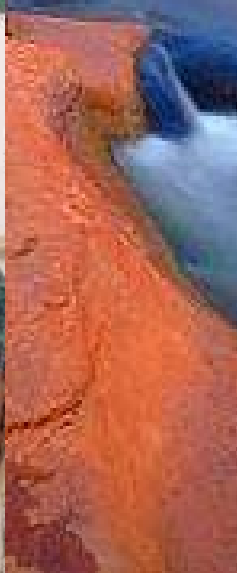
your loved ones



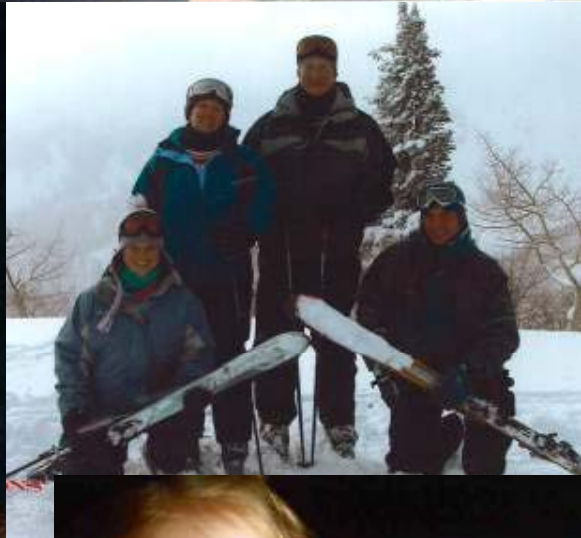
NO  
Nobel



Your family is THE reason you need to work and live SAFELY...



Do NOT take chances  
always wear your  
Personal Protective Equipment







What if you never saw these faces again?

**DYNO**  
Dyno Nobel



**SANDVIK**



You would do  
**ANYTHING** for  
your family.

Safety isn't  
hard.

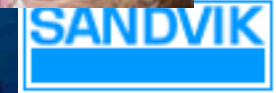
It's the only  
choice!





The most precious moments aren't always the loudest

Remember always work  
safe, so you can return  
home to your loved ones!





To achieve "Injury and Accident Free" sometimes requires us to climb the tallest mountains



**YOU are responsible for your SAFETY...**



Returning safely home to your family  
each and every day





Plan for tomorrow  
but

LIVE for today







**Think about your co-workers ...  
Safety is everyone's responsibility!**



Together, we can  
make a difference ...

For your family

For your co-workers

For your future ...



Think Safety.

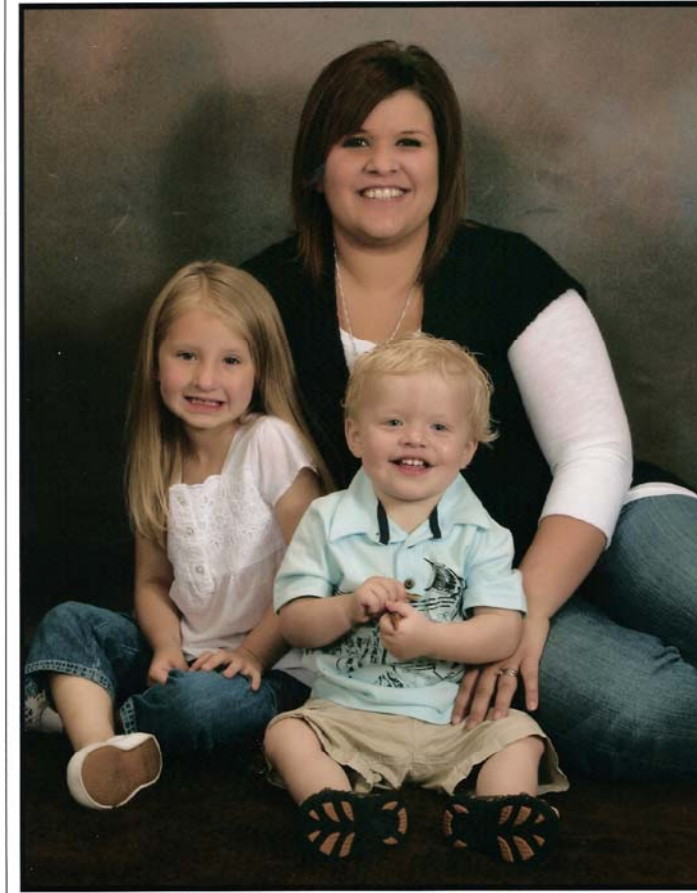
Act Safely.

Be ... Safe

Share the knowledge!



# My Motivation.....



*Our Family*

# Mine Safety and Health Administration

- Nationwide in 2007 there have been 47 fatalities
  - ✓ 24 coal
  - ✓ 23 metal/non-metal
  - ✓ Does include the Crandell Canyon Mine disaster
  - ✓ A lot of media attention on mine fatalities



# MSHA Mandates

- Congress has mandated that MSHA conduct inspections on mine property
  - ✓ One inspection per year at metal/non-metal mines
  - ✓ Two inspections per year for coal
- Newly hired inspectors are now out in the field
- OSHA expends \$.62 per person under their jurisdictions vs. MSHA's \$2.60 per person.



# MSHA Citations and Penalties

- **Final rule (MINER Act) effective April 23, 2007**
  - ✓ Re-formulates existing tables of point values for regularly assessed penalties (e.g., increases points based on mine and controlling entity size)
  - ✓ Eliminates single penalty assessment provision of \$60; replaced by minimum regular penalty assessment of \$112  
Increases \$ amount of each point under the regular assessment provision
  - ✓ Allows any violation to be reviewed for special assessment
  - ✓ Implements MINER Act penalties for “flagrant” violations and unwarrantable failure violations



# MSHA Citations and Penalties

- ✓ Decreases available reduction in penalty for good faith from 30% to 10%.
- ✓ History of violations timetable shortened from 24 to 15 months (repeat violations factor applies after 10 violations in a 15 month period) – (6 violations for an independent contractor).
- ✓ Repeat violations factor – based on repeat violations per inspection day (RPID).
- ✓ “Repeat Violations History” based on the number of violations of the same citable provision of a standard in preceding 15 month period (including non-significant and substantial violations as well as S&S).





# 30 CFR § 50.10

## Immediate Notification

- Old rule  
If an accident occurs, an operator ***shall immediately contact*** the MSHA District Office having jurisdiction over its mine. If an operator cannot contact the appropriate MSHA District Office, it shall immediately contact the MSHA Headquarters Office in Arlington, Virginia by telephone, at (800) 746-1553.
- New, expanded rule  
If an accident occurs, an operator shall immediately contact the MSHA District Office having jurisdiction over its mine. If an operator cannot contact the appropriate MSHA District Office, it shall immediately contact the MSHA Headquarters Office in Arlington, Virginia by telephone at (800) 746-1553. **The operator shall contact MSHA as described at once without delay and within 15 minutes.** If communications are lost because of an emergency or other unexpected event, the operator shall notify MSHA at once without delay and within 15 minutes of having access to a telephone or other means of communication.



# Is MSHA Compliance Important to Survival?

- 1<sup>st</sup> use of “flagrant” violation procedures
- MSHA issued **\$874,500** fine to R&D Coal Co. for a fatality in October 2006
  - ✓ Poor blasting practices (failure to stem boreholes prior to blasting as required: **\$145,300**)
  - ✓ Improper pre-shift examinations: **\$116,350**
  - ✓ Noncompliance w/roof control and ventilation plans (failure to assure that volume and velocity of air current was sufficient to eliminate harmful gases: **\$116,350**)
- R&D has since gone out of business



# Mining and Quarry Incidents Relating to Explosives (over a 25 year period)

- Blast Site Security
- Premature Blast
- Flyrock
- Misfire
- Fumes
- Miscellaneous
- Disposing and Transporting

\*Incidents listed by frequency of occurrence

Nearly 70% of all blasting related incidents, during a 23 year period, were attributable to poor blast site security and flyrock

# Blast Site Security



# Flyrock



# Flyrock



# Highwall Failure



# Highwall Failure





# Highwall Hazards



# Premature Detonation



# Fumes (CO Incursion)



# Employee Injury



# Why Is Safety So Critical to Your Success?

**"The first duty of business is to survive and the guiding principle of business economics is not the maximization of profit ---it is the avoidance of loss."**

**Peter Drucker**

**"Minimizing loss is as much improvement as maximization of profit."**

**Louis Allen**



# Addressing The Issues

**“Zero Harm From Our Business Activities”**

**Nice and well intended, but how?**

**Insanity?**

**“Doing the same thing over and over again  
and expecting different results”**



# What To Do?

Employee attitude and behavior is the key. Dyno Nobel Take 5! is a People Based Program that can help.

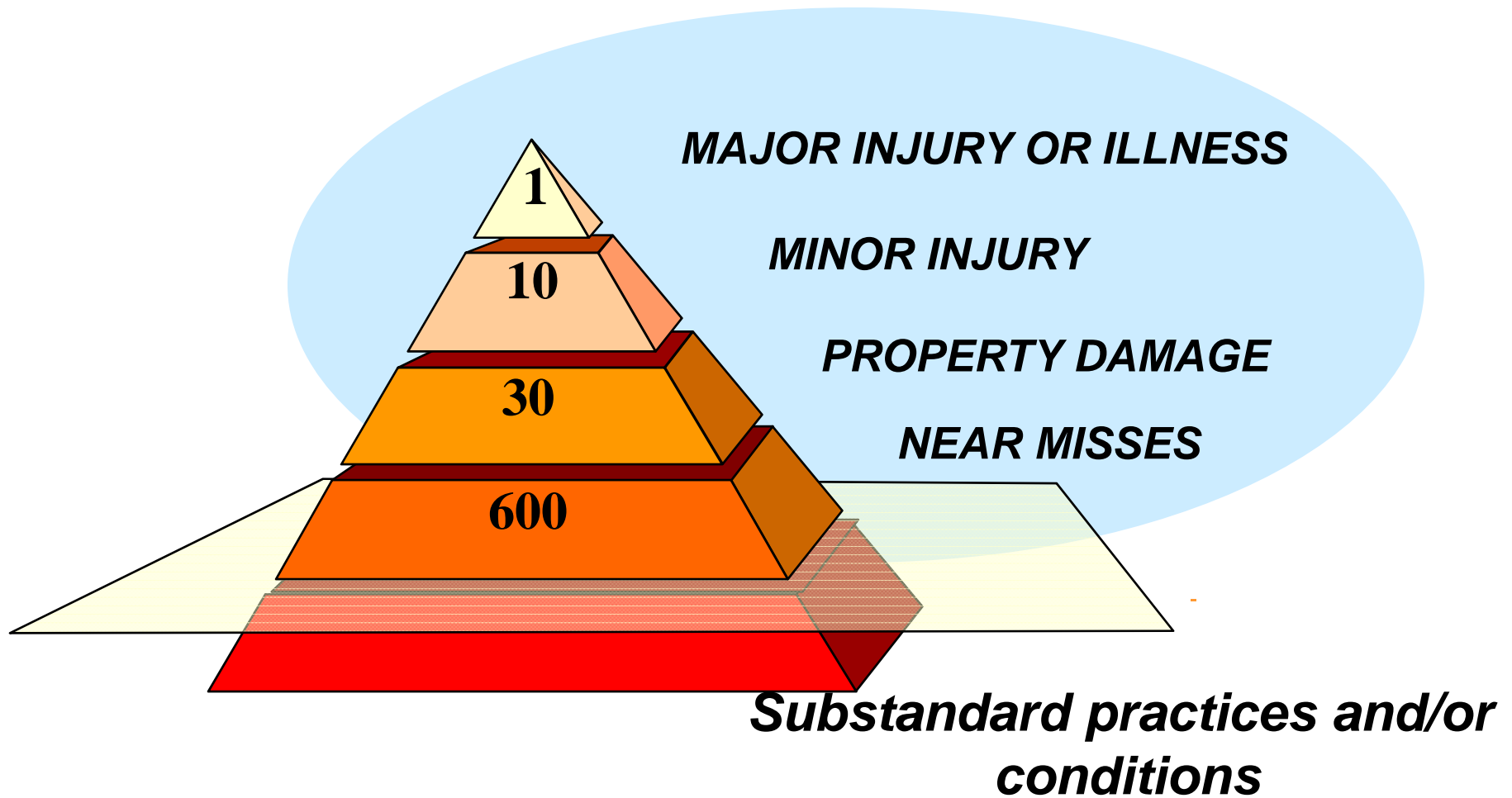
## Dyno Nobel



**A tool that Works!**



# Hazards . . .

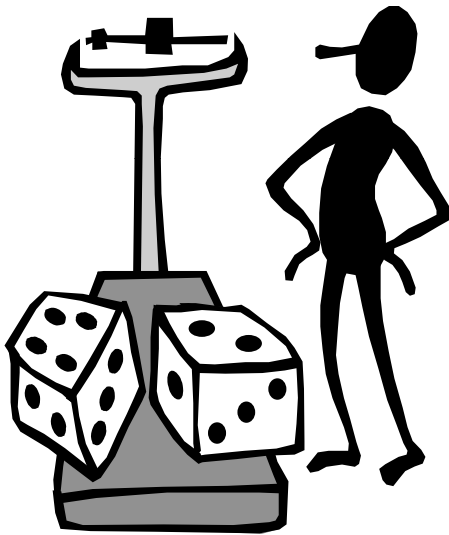




# Take 5! “Instinct”



# What's The Risk?



**How bad could the consequences be?**

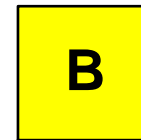
**How likely is it that that consequence will occur?**

# The HAT Matrix

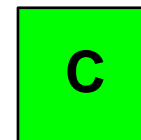
PROBABILITY						
will happen	5	B	B	A	A	A
almost certain	4	C	B	B	A	A
could happen	3	C	C	B	B	A
unlikely	2	C	C	C	B	B
extremely unlikely	1	C	C	C	C	B
		1	2	3	4	5
		minimal	moderate	severe	major	catastrophic
		SEVERITY				



**A CLASS HAZARD**  
STOP! Inform Supervisor.  
Use formal job safety analysis before continuing.




**B CLASS HAZARD**  
STOP! Inform Supervisor.  
Use procedure or permit.



**C CLASS HAZARD**  
Continue with task after completion of Take 5 !.

# Take 5! Notepad



Location: \_\_\_\_\_

Date: \_\_\_\_\_

Employee Name: \_\_\_\_\_

Supervisor Name: \_\_\_\_\_

**1. Describe the task:**

**2. List the hazards:**

**3. Action taken to eliminate or manage hazards:**

**4. Complete the HAT to assess the remaining risk:**

PROBABILITY	Will Happen	5	B	B	A	A
	Almost Certain	4	C	B	B	A
	Could Happen	3	C	C	B	B
	Unlikely	2	C	C	C	B
	Extremely Unlikely	1	C	C	C	C

	1	2	3	4
	Minimal	Moderate	Severe	Major
<b>SEVERITY</b>				

**Class C Hazard**  
 Continue with task after completion of Take 5!

**Class B Hazard**  
 STOP! Inform Supervisor. Develop/Implement controls.

**Class A Hazard**  
 STOP! Inform Supervisor. Use formal job safety analysis.

**5. List actions taken / needed before task can be done safely:**

Continue with task when hazard has been reduced to Class C

# Take 5!

**In 2006 Dyno Nobel had over  
50,000 opportunities to  
correct deficiencies and make  
the work environment safer!**



**SAFELY**  
**HOME**  
**Everyone.**  
**Every day.**

**DYNO**  
Dyno Nobel

**Groundbreaking Performance**



[www.quarryacademy.com](http://www.quarryacademy.com)



**Improving Processes. Instilling Expertise.**

