



*The Holmes Safety Association*

# **BULLETIN**

*December 1999*

*Season's Greetings*





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The **Holmes Safety Association Bulletin** contains safety articles on a variety of subjects: fatal accident abstracts, studies, posters, and other health- and safety-related topics. This information is provided free of charge and is designed to assist in presentations to groups of mine and plant workers during on-the-job safety meetings. For more information visit the **MSHA Home Page** at [www.msha.gov](http://www.msha.gov).

**PLEASE NOTE:** The views and conclusions expressed in Bulletin articles are those of the authors and should not be interpreted as representing official policy or, in the case of a product, represent endorsement by the Mine Safety and Health Administration.

**COVER:** Photograph taken by Daniel McClain, Div. of Minerals and Geology Mine Safety and Training Program, State of Colorado. If you have a potential cover photo, please send an 8" x 10" print to Donald Starr, Holmes Safety Association Bulletin, National Mine Health and Safety Academy, 1301 Airport Road, Beaver, WV 25813-9426.

KEEP US IN CIRCULATION--PASS US ALONG

## Miners' Choice Health Screening

On October 1, 1999, the Mine Safety and Health Administration (MSHA) began taking the next step in its "**End Black Lung Now and Forever**" initiative by implementing a pilot program to provide miners with a **confidential health screening**. It will impact all coal miners, both surface and underground. The pilot program will evaluate alternatives to the current Coal Worker's X-Ray Surveillance Program administered by the National Institute for Occupational Safety and Health (NIOSH). The purpose of the pilot health screening program is to provide early detection of coal workers' pneumoconiosis and silicosis by offering coal miners confidential chest x-rays at no cost.

The current NIOSH chest x-ray program has been in place for underground coal miners since 1970. Underground coal miners and underground coal mine independent contractors can receive preemployment and periodic chest x-rays that are paid for by their employer. Mine operators must submit x-ray plans, which include completing employee rosters. Participation in the program has steadily declined since its inception. Currently no more than 25 percent of eligible coal

mine workers participate. Since the mine operator is involved in the current NIOSH administered program, some miners have the perception that the mine operator may have knowledge of the x-ray findings, even though NIOSH regulations prohibit the providing of x-ray results to the mine operator. The NIOSH Coal Worker's X-Ray Surveillance Program is unaffected by the pilot program.

Surface coal miners and surface coal mine independent contractors are not eligible to participate in the existing program. MSHA has conducted limited chest x-ray screenings involving surface coal miners in several regions in recent years. These results indicated an occupational lung disease incident rate in excess of five percent in some areas and serve as a basis for moving forward with this pilot program.



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## *Miners' Choice Health Screening Program Operation*

The pilot program will operate separately from the existing NIOSH administered program. MSHA will pay certified x-ray facilities for all x-rays taken of coal mine workers under the pilot program. Under the first phase of this pilot, MSHA will select a number of active coal mines in order to target approximately ten percent, or 10,000, of currently employed coal mine workers for participation. In addition, all coal miners who work in the Commonwealth of Kentucky will be eligible. MSHA personnel will notify each miner working at the selected mine of their eligibility and actively solicit their participation in the program. Only miners working at those mines will be eligible for the confidential health screening during this pilot.

The pilot will run from October 1, 1999, to March 31, 2000. A second phase is slated for April 1, 2000, to September 30, 2000. Miners can select any certified facility to have their chest x-ray taken and they also will have their entire six month eligibility period in which to have it taken. All x-rays and miner data will be transmitted to NIOSH for evaluation, with the individual results kept confidential. NIOSH will notify each coal mine worker of their individual x-ray findings within 90 days or less. MSHA will establish a toll free telephone number, 1-800-706-0735, for persons desiring additional information or assistance regarding the pilot program. MSHA will also distribute outreach materials to ensure pilot program awareness among eligible coal mine workers. Miner participation is a key to **“End Black Lung Now And Forever.”**

# Remember: Winter Alert!



This is the last Winter Alert of this century 1999-2000. As we have done before, we wish to focus attention to the following natural phenomena which occur in coal mines during the winter months:

## **A + B = C**

**Lower barometric pressures and a significant drying-out process occur more often in underground mines during the winter months than during the rest of the year.**

**Lower barometric pressures and the drying effect in the mine tend to increase the permeability of the coal deposit.**

**Lower barometric pressures and the drying effect in the mine tend to increase the permeability of the coal deposit.**

These phenomena can have a potentially catastrophic impact in mines where bleeder systems that are being used to ventilate worked-out areas are not effectively maintained.

At one time during their history, nearly all of the coal-producing states have experienced one or more coal mine explosions.

Fortunately, the incidence of these devastating events has decreased dramatically. During

the past 2 years, there have been several mine fires and explosions in our Nation's mines. Because of industry preparedness, miners' lives were saved and serious injuries prevented. Nevertheless, these events continue to remind us that coal mining is a potentially hazardous industry.

"Everyone in the mining community is to be commended for their highly successful participation in past Winter Alert programs." "I feel quite sure that your involvement has played a

major role in preventing mine fires and explosions resulting in multiple fatalities or serious injuries," says Assistant Secretary for Mine Safety and Health, J. Davitt McAteer in an October 12, 1999 letter to coal mine operators.

This article taken from a letter written by Davitt McAteer for the MSHA Web site, dated October 12, 1999.

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## The Status of Fatalities-Coal and Metal/Nonmetal

This article updates the status of fatalities occurring in both coal and metal/nonmetal mines from January 1, 1999 through October 31, 1999. Based on preliminary accident reports, as of October 31, 1999, seventy-six fatalities have occurred at coal and metal/nonmetal mining operations. During this period, thirty fatalities occurred at coal operations and forty-six fatalities occurred at metal/nonmetal operations. Powered haulage and machinery in metal and nonmetal and fall of roof in coal were the most frequent accident classifications that caused fatalities. This chart gives a breakdown of the fatalities for this period.

| Accident Classification              | Number of Accidents 1/1/99 - 10/31/99 |                    |                |                    |
|--------------------------------------|---------------------------------------|--------------------|----------------|--------------------|
|                                      | Surface (Coal)                        | Underground (Coal) | Surface (M/NM) | Underground (M/NM) |
| Electrical                           | 1                                     |                    | 3              |                    |
| Exploding Vessels Under Pressure     |                                       |                    | 2              |                    |
| Explosives                           | 2                                     |                    |                |                    |
| Fall of Face/Roof                    |                                       | 1                  |                |                    |
| Fall of Face, Ribs, Pillar, Highwall |                                       | 1                  | 2              |                    |
| Fall of Highwall                     | 3                                     |                    |                |                    |
| Fall of Materials                    |                                       | 2                  |                |                    |
| Fall of Rib                          |                                       | 1                  |                | 1                  |
| Fall or Rib/Highwall                 |                                       | 1                  |                |                    |
| Fall of Roof/Back                    |                                       |                    | 2              | 1                  |
| Fall of Roof                         |                                       | 7                  |                |                    |
| Falling/Sliding Material             |                                       |                    | 1              |                    |
| Handling Materials                   | 1                                     |                    | 2              |                    |
| Hand Tools                           |                                       |                    |                | 1                  |
| Hoisting                             |                                       |                    |                | 1                  |
| Ignition of Explosion of Gas or Dust |                                       |                    | 2              |                    |
| Machinery                            | 2                                     | 1                  | 6              |                    |
| Other                                | 1                                     |                    | 1              | 1                  |
| Powered Haulage                      | 3                                     | 1                  | 12             | 4                  |
| Slip or Fall of Person               | 1                                     | 1                  | 3              | 1                  |
| <b>TOTALS</b>                        | <b>14</b>                             | <b>16</b>          | <b>36</b>      | <b>10</b>          |

**Coal Mining Fatalities by State  
(1/1/99 - 10/31/99)**

|             | AL | CO | IL | IN | KY | MD | OH | PA | UT | VA | WV | WY |
|-------------|----|----|----|----|----|----|----|----|----|----|----|----|
| Surface     |    | 1  |    | 1  | 5  |    |    | 1  |    | 2  | 3  | 1  |
| Underground | 2  |    | 1  |    | 3  | 1  | 2  |    | 1  | 2  | 4  |    |
| TOTALS      | 2  | 1  | 1  | 1  | 8  | 1  | 2  | 1  | 1  | 4  | 7  | 1  |

**Metal and Nonmetal Fatalities by State  
(1/1/99 - 10/31/99)**

|             | A<br>L | A<br>Z | C<br>O | F<br>L | I<br>A | I<br>N | K<br>S | M<br>I | M<br>O | M<br>S | N<br>C | N<br>M | N<br>V | N<br>Y | O<br>H | O<br>R | P<br>A | T<br>N | T<br>X | U<br>T | V<br>A | W<br>I | W<br>Y |
|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Surface     | 3      | 3      | 1      | 1      |        | 3      | 2      | 1      | 1      | 2      | 2      |        | 2      | 2      | 1      | 2      | 1      | 2      | 1      | 2      | 1      | 1      |        |
| Underground |        |        | 1      |        | 1      |        | 1      |        | 1      |        |        | 1      | 6      |        |        |        |        |        |        |        |        |        | 1      |
| TOTALS      | 3      | 3      | 2      | 1      | 1      | 3      | 3      | 1      | 2      | 2      | 2      | 1      | 8      | 2      | 1      | 2      | 1      | 2      | 1      | 2      | 1      | 1      | 1      |

**Metal and Nonmetal Fatalities by Primary Mineral Mined  
(1/1/99 - 10/31/99)**

| Primary Mineral Mined | Surface | Underground |
|-----------------------|---------|-------------|
| Cement                | 2       |             |
| Crushed Stone         | 1       |             |
| Copper                | 1       |             |
| Gold                  | 1       | 8           |
| Granite               | 1       |             |
| Gypsum                | 1       |             |
| Iron                  | 1       |             |
| Lead/Zinc             |         | 1           |
| Limestone             | 11      | 2           |
| Phosphate             | 1       |             |
| Sand and Gravel       | 12      |             |
| Stone                 | 1       |             |
| Titanium              | 1       |             |
| Uranium               |         | 1           |
| TOTAL                 | 34      | 12          |

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## Are You (and Your Vehicle) Ready for Winter?

Just when you get used to warm weather, winter comes around again. Winter driving's dangerous and tough on you and your car, so take a few minutes now to check your vehicle - it could save your life.

### Let's start under the hood:

- ✓Have you checked your vehicle's ignition, brakes, wiring, hoses, and belts?
- ✓Is it time to have the cooling system flushed and new coolant added?
- ✓Are all fluid levels O.K.?
- ✓Is the battery O.K.?
- ✓Does the car need an oil and filter change?

### Let's look at the tires:

- ✓Are the tires properly inflated?
- ✓Are the sidewalls in good shape?
- ✓Is there enough tread on the tires?
- ✓Have you put snow or studded tires on your vehicle if necessary?

### Now, get inside the vehicle - you'll need someone to help you with some of these:

- ✓Are the headlights working properly - low and high beams?
- ✓Are all turn signals working?
- ✓Are backup lights working?
- ✓Did you remember to check the four-way flashers?
- ✓Did you remember to check the heater and defroster?
- ✓Is the windshield washer working O.K.? Did you fill the washer reservoir with fluid for low temperatures?
- ✓Do you need new wiper blades?

### Let's look in the trunk:

- ✓Does your vehicle have a properly inflated spare tire?
- ✓Is there a lug wrench in the trunk?
- ✓Is there a jack in the trunk? Do you know how to set it up and use it safely?
- ✓Do you need tow and tire chains?
- ✓Do you have a set of jumper cables? Do you know how to use them safely?
- ✓Is there a bag of rock salt or cat litter in the trunk?
- ✓Do you have something to put under the wheels for traction to help get you out if you're stuck?
- ✓Do you have an ice scraper and a snow shovel?
- ✓Do you have a tool kit, a working flashlight, and extra batteries?
- ✓Do you have flares, reflective triangles, and brightly colored cloth?
- ✓Do you have a fully stocked and up-to-date first aid kit?
- ✓Do you have a supply of non-perishable high-energy foods?
- ✓Do you have extra mittens, socks, a cap, and a blanket? This is especially important if you drive long distances in cold, snowy conditions.

**Allow extra time to reach your destination. Most important, remember to adjust your driving to road and weather conditions and allow extra distance between your vehicle and others on the road.**



# Awards Presented at the Central Ohio Holmes Safety Meeting

by Jim Myer, Ohio Dept. of Natural Resources

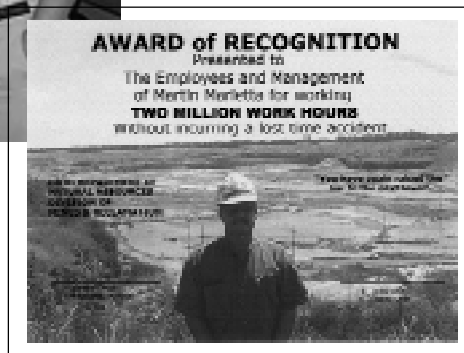
The Ohio Division of Mines and Reclamation recognizes achievements in mining safety records. The Columbus Division of Martin Marietta has achieved the goal of working over ONE MILLION work hours without incurring a lost time accident and was awarded a plaque in July 1996.

This year, the employees and management of the same company (Columbus Division of Martin Marietta) worked in

excess of TWO MILLION work hours without incurring a lost time accident. This was the first time a mine has achieved this mark.

Records indicate that through September 1999, the Columbus Division had worked 2,376,271 work hours without incurring a lost time accident and was presented with an Award of Recognition on October 27, 1999, at a Central Ohio Holmes Safety Meeting.

The award plaque was presented to Martin Marietta by Mel Byers, Gary Rothwell, and Jim Myer, Deputy Mine Inspectors and Mine Safety Manager for the Ohio Dept. of Natural Resources, Division of Mines and Reclamation.



Plaque being presented to Martin Marietta by Mel Byer, Gary Rothwell, and Jim Myer

"TWO MILLION CLUB" Plaque

## Safety Milestone Reached

Submitted by Leland Payne



*Gary Timmons from the Safety Division at Vigo Coal Company accepting a Certificate of Achievement Award from the Holmes Safety Association - Indiana Council.*

Vigo Coal Company's Columbia Mine recently reached a milestone in safety performance. On September 16, 1999, the Vigo miners completed One Million Consecutive Man Hours worked without a lost workday injury. This outstanding record was achieved from December 18, 1993, to September 16, 1999.

Vigo Coal Company is a subsidiary of Koester Companies, an employee-owned company.

Vigo Coal Company was presented a Certificate of Achievement Award from the Holmes Safety Association - Indiana Council at their quarterly meeting held October 21, 1999, in Vincennes, Indiana.



## *Announcing the Joseph A. Holmes Safety Association Scholarship Program*

### **PURPOSE**

The Joseph A. Holmes Safety Association endeavors to promote health and Safety within the mining industry. We believe that providing financial aid to students in the pursuit of education related to mining safety will result in safer mines and healthier environments within the mining industry. To that end, we have instituted this Scholarship for Mining Committee.

### **SCOPE**

This scholarship program shall be open to persons currently employed or who are pursuing careers in the mining industry, safety and health fields. Scholarship awards are available in the following categories:

1. *High school graduates (or “graduating seniors”)*
2. *Undergraduate students currently enrolled in a college or university*
3. *Graduates of a college or university*

### **APPLICATION REQUIREMENTS:**

#### **EACH APPLICANT MUST SATISFY EACH OF THE FOLLOWING CRITERIA:**

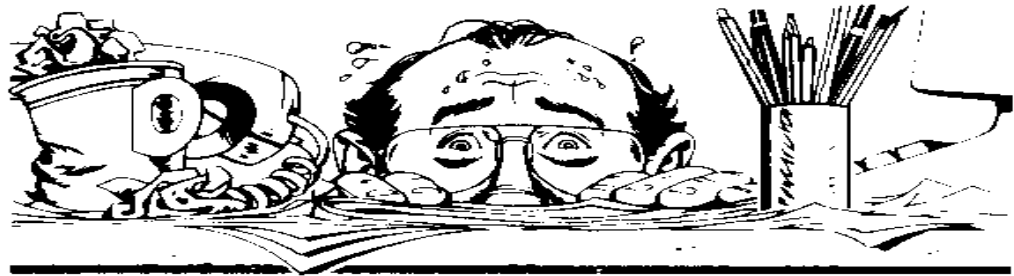
1. Must have been accepted by or currently enrolled at an accredited college or university in a degree program in mine safety, occupational or industrial health and safety, industrial hygiene, safety management, or other related safety programs.
2. Must have taken ACT or SAT examinations if you have been out of high school for less than 5 years. (Scores must be provided by the high school guidance counselor, principal, or college registrar).
3. Must complete the Financial Disclosure Information section to verify financial status and expenses of all persons living in the applicant’s household.
4. Must provide a transcript of grades for the last 3 years of completed education (i.e., high school or college level).
5. Must submit a 100-200 word essay on “why I want to study for a degree or pursue a career in the mine safety field.”
6. Must complete the survey of Extracurricular Activities.
7. Must submit two to three letters of recommendation (one academic, one personal and one from the mining community, if able).

*(Continued next page)*

8. Must complete the application and submit it to the **Joseph A. Holmes Scholarship Program, c/o Secretary/Treasurer, P.O. Box 4187, Falls Church, VA 22044.**

**Applications must be submitted** to Scholarship for Mining Program no later than March 2, 2000. The mailing address will appear in the December 1999 and January 2000 issues of the **Bulletin**. The committee Chairperson shall convene the committee not later than 30 days prior to the date of the annual meeting of the National Holmes Safety Association each year for the purpose of selecting the successful applicant(s). All applicants will receive consideration without regard to race, color, sex, age, national origin, religion, or disability.

**To receive an application for the Holmes Safety Association Scholarship Program, please apply to Joseph A. Holmes Scholarship Program, c/o Secretary/Treasurer, P.O. Box 4187, Falls Church, VA 22044.**



## Stress on the Job -- Part III

Written for the Bulletin by Charlotte Richardson, Staff Writer

### Changing the Organization to Prevent Job Stress

Part I related the problems Marty and Benny were having at their respective jobs and the obvious stressors they were experiencing. They both complained of stress-related health effects (although they haven't yet recognized them as caused by job stress), as well as difficulties in their home lives. Part II recounted both companies' efforts to begin some kind of stress intervention programs. This section also detailed many health and safety effects that

have been researched and studied.

Job stress is being studied more closely but research and surveys already conducted indicate a definite connection between job stress and a variety of short-term effects – for example, headaches, upset stomachs, and irritability -- and long-range consequences such as cardiovascular disease. Many companies have recognized these problems and have instituted stress management programs. Because these programs deal with the worker instead of the root causes of

job stress, the benefits rarely last.

As a general rule, actions to reduce job stress should give top priority to *organizational changes* that would improve working conditions. But even the most conscientious efforts to bring about better working conditions are unlikely to eliminate stress completely for all workers. For this reason, a combination of organizational change and stress management is often the most useful approach.

According to American Psychologist, the ways to



change the organization to prevent job stress are:

- **Ensure** that the workload is in line with workers' capabilities and resources.
- **Design** jobs to provide meaning, stimulation, and opportunities for workers to use their skills.
- **Define** workers' roles and responsibilities clearly.
- **Give** workers the chance to participate in decisions and actions affecting their jobs.
- **Improve** communications - **reduce** uncertainty about career development and future employment prospects.
- **Provide** occasions for social interaction among workers.
- **Establish** work schedules that are compatible with demands and responsibilities outside the job (be sensitive to employees' needs).

There is no "standard" approach or simple "how to" manuals for developing stress prevention programs. Several factors must be considered in the appropriate design and solution --

- Size and complexity of the organization
- Available resources
- Identifying unique types of stress problems

Although it is not possible to propose a universal prescription for preventing job stress, it is possible to offer guidelines.

In all situations, the process involves three distinct steps:

- Step 1. Identify**
- Step 2. Intervene**
- Step 3. Evaluate**

For this process to succeed, organizations need to be adequately prepared and, at a minimum, should include the following:

- **Building** general awareness about job stress (causes, cost, and control)
- **Securing** top management commitment and support for the program
- **Incorporating** employee input and involvement in all phases of the program
- **Establishing** the technical capacity to conduct the program (e.g., specialized training for in-house staff or use of job stress consultants)

Bringing employees and managers together in a committee or problem-solving group may be an especially useful approach for developing a stress prevention program. Research has shown these participatory efforts highly effective in dealing with ergonomic hazards in the workplace; partly because they capitalize on workers' firsthand knowledge of conditions and situations they encounter in their jobs. However, when forming such working groups, care must be taken to ensure that they are in compliance with current labor laws.<sup>1</sup>

Low morale, health and job

complaints, and high employment turnover often provide the first signs of the effects of job stress. Just as often, there may be NO clues, especially if employees are fearful of losing their jobs. Lack of obvious or widespread warning signs is not a good reason to dismiss concerns about job stress or minimize the importance of a prevention program.

### *Steps Toward Preventing Job Stress*

**Step 1 -- Identify the Problems.** Finding the best method to explore the scope and source of a suspected stress problem in an organization depends partly on its size and available resources. Group discussions among managers, labor representatives, and employees can provide valuable information. Such discussions may be all that is needed to track down and remedy stress problems in a small company. A bigger company could use such discussions to help design formal surveys for gathering details about stressful job conditions from large numbers of employees. Regardless of the

*(Continued on next page)*

<sup>1</sup> The National Labor Relations Act (NLRA) may limit the form and structure of employee involvement in worker-management teams or groups. Employers should seek legal assistance if they are unsure of their responsibilities or obligations under the NLRA.

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size or the method used to collect data, information must be obtained about employee perceptions of their job conditions and their perceived levels of stress, health, and satisfaction. The list of job condi-

### Step 1

- ✓ Hold group discussions with employees
- ✓ Design an employee survey
- ✓ Measure employee perceptions
- ✓ Collect objective data
- ✓ Analyze data
- ✓ Identify problem locations and stressful job conditions

tions that could lead to stress, combined with the warning signs of the effects of stress, provide good starting points for deciding what information to gather.

A local university or consulting firm can help design a survey and analyze the data, but the overall authority for the prevention program should remain within the company.

Objective measures such as absenteeism, illness, turnover rates, and performance problems are, at best, only rough indicators of job stress. However, they should not be ignored as they can help gauge the presence and scope of job stress.

After discussing and collecting surveys, the data should be summarized and analyzed to answer questions about the location of a stress problem and job conditions that may be responsible -- for example, are problems present throughout the company or confined to

specific jobs?

### Step 2 -- Design and Implement Interventions.

Once job stressors are identified and the scope of the problem is understood, the next step is to design and implement an intervention strategy.

In small companies, informal discussions and brainstorming sessions can pinpoint stress problems as well as produce good ideas for stress reduction. A more formal process is probably needed for large organizations. A team of representatives from within the company with the help of outside consultants can usually develop suitable recommendations based on the data from Step 1.

All companies, regardless of size or complexity, may need the assistance of experts if certain difficulties are uncov-

### Step 2

- ✓ Target source of stress
- ✓ Propose and prioritize intervention strategies
- ✓ Communicate planned interventions to employees
- ✓ Implement Interventions

ered. A hostile work environment, unequal workloads (excessive versus under-utilized sections), and resistance to any kind of change are types of difficulties that may be specific to individuals in management, an employee, or groups. Solutions targeting each particular problem can range from the simple (e.g., stress management training) to more complex

interventions (e.g., redesigning a process) for which outside expertise might be needed.

Before any intervention takes place, companies need to inform employees of their intentions and when they will occur. An all-employee meeting is useful for this purpose.

**Step 3 -- Evaluate the Interventions.** Evaluation is necessary to determine whether the solutions are producing desired effects and whether changes in direction are needed.

Any proposed program should establish a timeframe for full implementation as well as periodic measurement. Steps involving organizational changes need both short- and long-term scrutiny. Quarterly evaluations can indicate whether the program is showing the desired effects or if redirection is needed. Annual assessments can determine whether interventions

### Step 3

- ✓ Conduct both short- and long-term evaluations
- ✓ Measure employee perceptions
- ✓ Include objective measures
- ✓ Refine strategies and return to Step 1

are producing lasting effects or if alternate methods need to be explored.

The same types of information collected during Step 1 should be gathered and analyzed for evaluating effectiveness. Employee perceptions are usually the most sensitive

measure of job stressors and will often provide the first indications of success or failure of interventions. Using objective measures (such as absenteeism and health care costs) may be useful but are less clear-cut and can take a long time to appear.

**Need more information about job stress?**

NIOSH  
4676 Columbia Parkway  
Cincinnati, OH 45226-1998  
1-800-35-NIOSH  
<http://www.cdc.gov/niosh>

The Encyclopaedia of Occupational Health and Safety, 4th Edition  
1995 Workers' Compensation Year Book

American Psychologist  
Bureau of Labor Statistics  
**(<http://stats.bls.gov>)**  
Families and Work Institute  
Journal of Applied Psychology  
Journal of Occupational and Environmental Medicine

## How Far Can You Fall From A Beam?

by Dave Anspach,

One night while working with Monty (fictitious name), we were given the job of placing new beams in the flotation plant. One old beam had to be removed to make room for some new equipment being installed, so a guy I'll call "Gene" was assigned to cut the offending beam in half at the fishplates. Gene got a ladder and climbed up on the cross beam; then, with a rope, pulled up a 6" block and hung it on another beam above. He then threaded the rope through the block and pulled up the cutting torch and other tools to use.

The foreman warned Gene: "Don't get too near the cut as the ends might spring apart." Since he didn't care for this boss too much, Gene acted like he didn't hear him. Gene got himself seated on one side of the fishplate and started cutting on the beam with the torch. He cut the side and bottom plates loose, but the beam hung on. So he cut the top plate in half. The beam held fast.

That's when he noticed the small piece on the side he had missed. He leaned over the beam and set the torch to it. There was a loud thud and Gene slumped over, having been smacked squarely in the face by the beam springing

apart. Monty, who had been watching, ran up the ladder and yelled: "Someone get hold of that rope -- I'll lower him down."

Monty tied the rope around the unconscious man's waist and sat down, preparing to let him down. Without thinking, Monty sat down on the beam -- right on the hot spot that had just been torched. He let out a great war whoop, loosening his grip on the rope. With that, Gene rolled off the beam and swung out slightly. By the time Monty had regained his grip, Gene had slipped about 4 feet. We managed to get Gene within a few feet from the floor when he started coming to. Suddenly Gene grabbed the rope and started pulling himself back up! All of us began yelling at him, which only prompted him to speed up. We didn't see any other solution, so we let go of the rope and got out of the way, knocking over the ladder and scattering every which way. Gene hit the floor with a great thump which knocked him out again. He was a lot easier to handle in this state, so we all carried him out to the truck and drove him to the doctor.

*(Continued next page)*

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## *How Far Can You Fall From a Beam? (Continued)*

After Gene came around, he wasn't so energetic, and he explained what had happened. As he was coming around, the first thing he saw was this rope in front of his face and he couldn't figure out what it meant. Looking up, he spotted Monty with his pants smoking, so he just knew he was being dropped into some place worse than Hell, and Monty was trying to put him there. Since that was NOT where he wanted to be, he reckoned he would climb out and take the matter up with Monty, only to hear all these voices from the pits of Hell screaming his name! And that's when we dropped the rope.

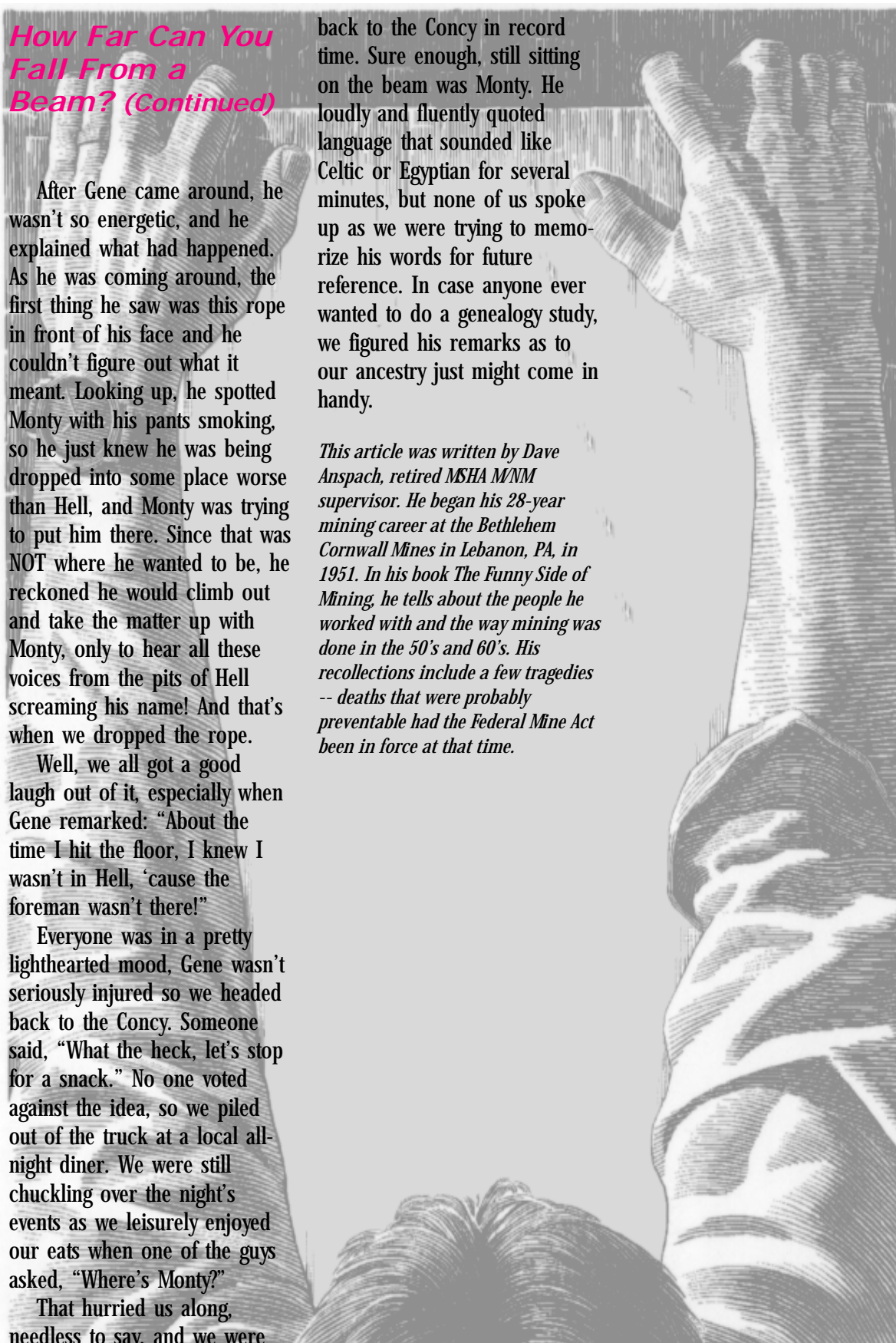
Well, we all got a good laugh out of it, especially when Gene remarked: "About the time I hit the floor, I knew I wasn't in Hell, 'cause the foreman wasn't there!"

Everyone was in a pretty lighthearted mood, Gene wasn't seriously injured so we headed back to the Concy. Someone said, "What the heck, let's stop for a snack." No one voted against the idea, so we piled out of the truck at a local all-night diner. We were still chuckling over the night's events as we leisurely enjoyed our eats when one of the guys asked, "Where's Monty?"

That hurried us along, needless to say, and we were

back to the Concy in record time. Sure enough, still sitting on the beam was Monty. He loudly and fluently quoted language that sounded like Celtic or Egyptian for several minutes, but none of us spoke up as we were trying to memorize his words for future reference. In case anyone ever wanted to do a genealogy study, we figured his remarks as to our ancestry just might come in handy.

*This article was written by Dave Anspach, retired MSHA M/NM supervisor. He began his 28-year mining career at the Bethlehem Cornwall Mines in Lebanon, PA, in 1951. In his book *The Funny Side of Mining*, he tells about the people he worked with and the way mining was done in the 50's and 60's. His recollections include a few tragedies -- deaths that were probably preventable had the Federal Mine Act been in force at that time.*





## *Waiting on the Smoke to Clear: The Mulga Mine Explosion*

*October 15, 1937*

*by Steve Hoyle, Bulletin Staff Writer*

The Woodward Iron Company's Mulga Mine was approximately 16 miles north of Birmingham. Mulga was a room-and-pillar operation that had a pair of 226-foot shafts and three slopes. At the mine, 550 of the 604 man work force toiled underground in the 36- to 74-inch thick Pratt seam to extract between 2,000 and 2,500 tons of coal per day. The morning and afternoon shifts each had 250 men; the remaining 50 miners worked the night shift.

The coal mined at Mulga was friable and dusty and the mine was gassy, liberating about one million cubic feet of methane a day. In 1910, an open light had triggered a methane explosion in the mine that took the lives of 40 miners. Four years later, 17 miners died at Mulga in a similar accident. Since that explosion, the mine had what was considered to be a good safety record.

The miners used electrically-powered undercutting machines and a trolley haulage system. With one exception, all of the undercutting machines were nonpermissible. "This equipment," the accident report stated, "was well-installed and

reasonably well-maintained and operated, but without respect to intake and return air." Haulage-ways and main entries were machine rock dusted to the end of the trolley wire. Rock dust was supposed to be applied by hand in rooms and advancing faces to within 15 feet of the face; this was not always done. Shot firers stemmed boreholes with rock dust and used dynamite to blast the coal at any time during the shift. According to the accident report, miners used "electric cap lamps for lighting, foremen use[d] small key-lock lamps for testing purposes, and firebosses use[d] either standard or small key-lock lamps for gas testing." The report said that the use of "electric cap lamps is a commendable and progressive practice, but the use of key-lock standard and key-lock unbonneted small lamps [was] not the safest practice."

There were 229 men in the mine on the evening of October 15, 1937. At 10:45 p.m., 226 feet down and 3 1/2 miles from the shaft bottom, a methane explosion originated 13 feet from the freshly cut face of the 2nd parallel air course of 12 right off 2 cross haulage. Coal

dust propagated the forces of the explosion which traveled about 1,580 feet and blew out or damaged 22 stoppings and seven ventilation doors. Very few timbers were knocked down and there were no roof falls. Of the miners inside, 195 escaped, 22 died of suffocation, 4 from afterdamp and flame, and 7 were burned to death. The 34th victim died of severe burns two days after being recovered from the mine. State inspectors were notified 90 minutes after the explosion and the Bureau of Mines was contacted 2 1/2 hours after the accident.

Rescue and recovery work began at once. Crews quickly established "temporary ventilation with brattice cloth." The recovery crew had been trained in the use of apparatus which helped their efforts. Self-contained oxygen breathing apparatus had to be used in some areas. By 6:00 a.m., October 16, 32 bodies had been recovered and brought to the surface. The 33rd victim was brought out at 8:00 a.m. and the last one by 1:00 p.m.

The investigators tried to reconstruct the accident. Coal

*(Continued on next page)*

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had been blasted before the explosion. The blasting had liberated additional methane and had advanced the face beyond the curtain. They found that the 12 right ventilation door had been latched open for 30 to 35 minutes before the explosion occurred. The open door and blasting “partially if not completely short circuited the air out of the 1st and 2nd inby air courses off 12 right off 2 cross haulage,” allowing an accumulation of methane to form. They also found that a car (or part of a car) of coal had been loaded after the face had been shot, but were unsure of what happened next. The report said “whether the shot firer examined the place and allowed miners to enter, or whether he went elsewhere, waiting on the smoke to clear, and the miners entered before he returned to make the examination, is problematical.” The investigators felt that one, possibly two, miners and the shot firer were in the face of the parallel air course when the explosion happened. Further examination led them to state that “had the 10 men in 12 cross entry and air course used the available canvas for temporary stoppings or barricading, they might have been rescued alive, or if they had been equipped with self-rescuers, they, and probably others could have saved themselves.”

The investigation continued. It appeared that the methane had ignited when a shot firer

“attempted to light with a match an unbonneted ‘Baby-Wolf’ key-lock flame safety lamp. The dismantled lamp parts and the burned match were found at the points shown on [the]...map.” The Chief Inspector for the State of Alabama agreed with the Bureau of Mines findings in his report. He said that latching the “door which short circuited the air and lighting a flame safety lamp” were “the direct causes of the explosion.”

They concluded that problems existed with the work practices used by the company and by the miners. “From the evidence and information,” the Bureau’s accident report said, “there was a failure on the part of the company and its officials in not providing sufficient air at the working faces, allowing door latches to be used, not providing and requiring the use of magnetically locked flame safety lamps, and inadequate rock dust from the end of the trolley wires to the working faces.” Also, there “were failures on the part of individual workmen in not applying sufficient rock dust by hand, in leaving or latching a ventilating door open, and in opening and attempting to light a flame safety lamp underground.”

#### *For additional reading*

*Cash, Frank E. “Explosion Report, Mulga Mine, Woodward Iron Company, Mulga, Jefferson County, Alabama, October 15, 1937.”*

*“Explosion in the Mulga Mine, Woodward Iron Company, Mulga, Alabama, October 15, 1937.” Memorandum from C.W. Owings to Bureau of Mines Safety Division, April 15, 1938.*

*Letter to Hon. Bibb Graves, Governor of Alabama, from W.B. Hillhouse, Chief State Mine Inspector, October 29, 1937.*



## Out West . . .

Maricopa, Pima, and Pinal counties.

*Article taken from Mine Safety and Health News - November 26, 1999, Vol. 6, No. 23*

### Federal Aid Promised for Laid-off Miners

About 1,300 Arizona miners will receive assistance in seeking jobs to replace those they lost when an Australian mining company closed its Arizona operations.

The U.S. Labor Department said up to \$8.7 million will be available to help the miners find jobs, move them if necessary, and undergo retraining as needed, among other services.

About 2,200 miners lost their jobs when Broken Hills Proprietary Co., Ltd., headquartered in Melbourne, announced in June it was halting its underground mining and milling, smelting and refining operations at San Manuel.

“The mining industry in Arizona is still undergoing changes resulting in substantial layoffs in the industry, Labor Secretary Alexis M. Herman said November 15 in announcing the grant. “A full array of services will be offered in order to get these workers back into the labor Market.”

Gila and Pima counties will operate the project and will receive \$3.3 million for immediate use for workers in Gila,

### Air Quality Subcommittee

New OSHA proposed standards decreasing the permissible exposure level for crystalline silica by one-half to 50 micrograms stimulated discussion about the need for scientific analysis of the entire crystalline silica issue, as well as to clarify the different types of silica and their relative roles in health concerns. Kim Young of RHEOX has contacted MSHA to determine that organization's position. Sarkus Ampian, Golden Cat division of Ralston Purina, encouraged the scientific analysis. He said that approach was helpful in achieving a safe use determination for pet litters for his company. While information is developed, Mark Ellis of US Borax encouraged companies to meet the more stringent of competing standards between any of the worker safety agencies to ensure compliance. The group encouraged companies to conduct dual sampling with the agencies.

Young reported on a recent conference about changes to allowable diesel exhaust levels.

According to a presentation at the conference, off-road diesels are responsible for only 2 percent of vehicles, but 30 percent of NOX emissions. Control techniques being suggested include smog checks for off-road fleets and retrofit programs. The Carl Moyer grant program provides assistance for retrofitting and purchasing cleaner vehicles. Contact the Association for more information.

*Article taken from California Mining, Vol. XXIV, No. 8, dated November 1999*

### 'Hector' Quake Goes Easy On Hector Mine

It's known as the “Hector Mine” earthquake, but member company RHEOX's Hectorite clay mine shows few scars from the big shake centered just 17 miles from the mine.

The 7.1 magnitude temblor hit at 2:46 a.m. on October 16 and produced scant damage at the mine or processing plant, according to Mike McGath, manager.

He reports a pipe broke on a well at the mine, and the submersible pump had to be pulled out for repair. Small parts tumbled off shelves in the maintenance building. The mine doesn't operate at night, so nobody was in harm's way.

At the plant 17 miles away, some bolts pulled loose on water tanks, and oil spilled out

*(Continued on next page)*



**'Hector' Quake  
(Continued)**

of a gear box. Personnel present at the 24-hour operation followed drill instructions that are practiced regularly, McGath said.

Those instructions were, "Get out where it is safe and make sure everybody is accounted for. As soon as it is safe to do so, go back in and shut off gas and electricity."

The RHEOX mine that produces Hectorite clay, used in cosmetics, paint, ink, ceramics and pharmaceuticals, is 17 miles from the 25-mile long rupture the quake sliced through the desert floor at Twenty Nine Palms Marine Base.

According to new reports, heavy artillery pieces were tossed like play blocks, and automatic weapons skittered across the desert surface.

It has been McGath's experience in three major temblors in the area that shakes strike in early morning hours. He remembers the 7.3 Landers earthquake in 1992 at 5 a.m. and two hours later the Big Bear temblor.

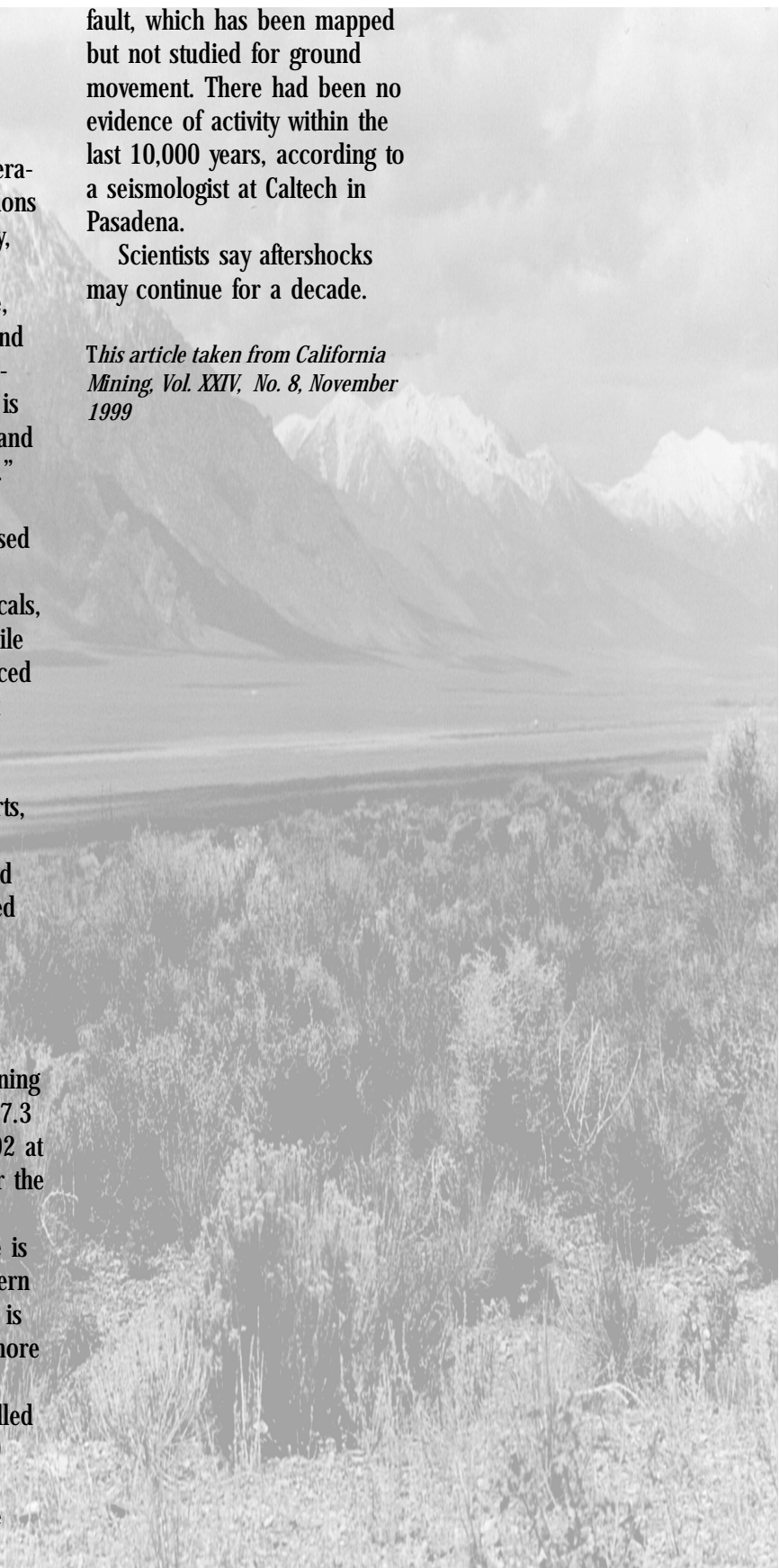
The Hector Mine quake is the fourth largest in Southern California this century and is measured as three times more powerful than the 6.7 Northridge temblor that killed 57 people and caused \$40 billion in damages.

The Hector Mine quake occurred at the Lavic Lake

fault, which has been mapped but not studied for ground movement. There had been no evidence of activity within the last 10,000 years, according to a seismologist at Caltech in Pasadena.

Scientists say aftershocks may continue for a decade.

*This article taken from California Mining, Vol. XXIV, No. 8, November 1999*







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Labor Safety Consultant Supervisor

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Daniel Foltyniewicz 630/631-0876

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(Continued on next page)

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IDNR - Office of Mines and Minerals  
503 East Main St.  
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***Greetings  
of the Season  
and Best Wishes  
for the  
New Year***

*On behalf of the Holmes Safety  
Association Bulletin writing staff  
and myself, we hope you have a  
safe and joyous holiday season.  
We are looking forward to serving  
you in the New Millennium.*

***Donald C. Starr***  
*Editor of the Holmes Safety  
Association Bulletin*



## *Mining Our History* *An Overview of Disaster* *Anniversaries*

*by Melody Bragg, Bulletin Staff Writer*

### **98 Years Ago**

Hoisting  
Number One Mine  
Indian Territory, OK

### **December 28, 1901**

Six men were killed in Mine Number ONE at Hartshorne, Indian Territory by being dumped from the cage while ascending the shaft, falling a distance of about 115 feet.

### **95 Years Ago**

Mine Fire  
Horton Mine  
Horton, WV

### **December 4, 1904**

Seven men were suffocated by smoke and gas when the furnace stack used for ventilation, which was constructed of wood, caught fire for an undetermined reason. The fire spread and caught the coal on fire.

### **85 Years Ago**

Haulage  
Tripp Shaft  
Scranton, PA

### **December 9, 1914**

Thirteen men were precipitated from the cage at a point about 285 feet below the surface to the sump, a distance of about 300 feet, and fearfully mangled. One man was found clinging to the side of the cage when it reached the Clark vein, 300 feet below the surface. It was found that 13 men had been killed, which together with the man saved, brought the total occupants of the cage to 14. The State Law of Pennsylvania restricted the number on a cage at any one time to 10.

### **80 Years Ago**

Explosives  
Bogle Mine Number Three  
Jacksonville, IN

### **December 3, 1919**

During a coal strike, nine company men went down to get out coal for the powerplant. They drilled and loaded holes in two rooms and went out on the entry to wait for the shots to go off. The blast ignited dust because of a blown-out shot, killing six and bruising the three others. The

mine was free of gas, but black powder was used in blasting. Usually coal was done by shot firers after the miners were out of the mine.

### **75 Years Ago**

Explosion  
Burnett Mine  
Burnett, WA

### **December 17, 1924**

At 6:00 p.m., an explosion in the gangway at the Number 6 chute killed seven and injured one of the night shift crew. A large fall of roof in the No. 6 pillar forced gas down into the gangway where it was ignited by a locomotive that was pulling a rope to hoist timbers and was "arcing and sparking near the No. 6 chute." Most of those killed were suffocated.

### **70 Years Ago**

Explosion  
Old Town Mine  
McAlester, OK

*(Continued on next page)*

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## *Mining Our History (Continued)*

### **December 17, 1929**

Sixty-one men in this mine when were killed by violence and burns from an explosion in the west slope aircourse. All the men below the 5th east and west entries were killed instantly. All men in the 5th east and west entries were killed instantly. All men in the 5th west were overcome by afterdamp while attempting to escape. It is believed that the explosion originated from striking a match to light a cigarette or from arcing of the fan motor.

### **69 Years Ago**

Explosion  
Lamb Mine  
Madrid, NM

### **December 6, 1930**

An explosion in the 6th left entry resulted in the death of five men, serious injury to two others, and slight injury to five more. The remainder of the 81 men underground escaped uninjured. Explosive accumulations of methane had been found for some days and it accumulated rapidly when ventilation was interrupted during construction of an overcast. The explosion was increased by coal dust but was checked by rock dust barriers and by some rock dust applied to the entries.





***What's happening at the ...***  
***National Mine Health and Safety Academy***

***Year 2000***

***Conferences/Seminars and Workshops:***

**Accident Investigation Retraining Seminar, January 4-13, 2000**

**Technical coordinator: Kenneth M. Scott**

**Mine Blasting Safety and Application Seminar, January 19-21, 2000**

**Technical coordinator: Wayne L. Lively**

**Mine Construction, Maintenance, and Repairs Safety Workshop, May 31 - June 1, 2000**

**Technical coordinator: John Tyler or Bruce E. Dial**

**Mine Rescue Team Training Informational Seminar, May 23- 24, 2000**

**Technical coordinator: David Friley**

**Roof Control Seminar, May 23-24, 2000**

**Technical coordinator: Joseph P. Fama**

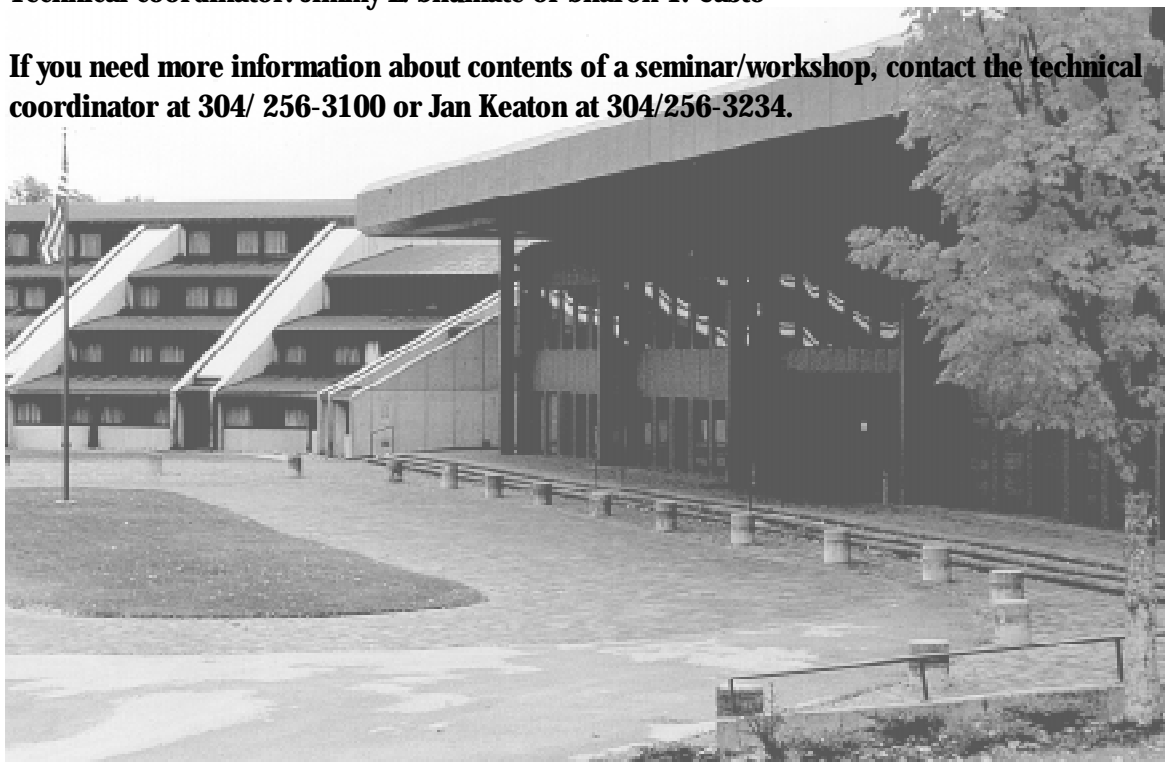
**Surface Haulage Safety Seminar, August 22-24, 2000**

**Technical coordinator: John Tyler or Bruce E. Dial**

**Tram/National Mine Instructors Seminar, October 12-14, 2000**

**Technical coordinator: Jimmy L. Shumate or Sharon T. Casto**

**If you need more information about contents of a seminar/workshop, contact the technical coordinator at 304/ 256-3100 or Jan Keaton at 304/256-3234.**



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## Words to think about...

Let us love winter, for it is the spring of genius  
**Pietro Aretino (1537)**

Every mile is two in winter.  
**George Herbert**

He who wishes to be rich in a day will be hanged in a year.  
**Leonard Da Vinci**

Knowledge and timber shouldn't be much used till they are seasoned.  
**Oliver Wendell Holmes**

Experience is a comb which nature gives us when we are bald.  
**Chinese Proverb**

**NOTICE:** We welcome any materials that you submit to the Holmes Safety Association Bulletin. For more information visit the MSHA Home Page at [www.msha.gov](http://www.msha.gov). If you have any color and black/white photographs that you feel are suitable for use on the front cover of the Bulletin, please submit them to the editor. We cannot guarantee that they will be published, but if they are, we will list the contributor(s). Please let us know what you would like to see more of, or less of, in the **Bulletin**.

**For address changes and new subscription request, contact:**

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**Arlington, VA 22203-1984**  
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**Please address any comments to:**

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**Please call us at 304/256-3283 or**  
**Fax us at 304/256-3524**

**REMINDER:** The District Council Safety Competition for 2000 is underway—please remember that if you are participating this year, you need to mail your quarterly report to:

**Mine Safety & Health Administration**  
**Educational Policy and Development**  
**Holmes Safety Association Bulletin**  
**P.O. Box 4187**  
**Falls Church, Virginia 22044-0187**

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MSHA, Holmes Safety Association  
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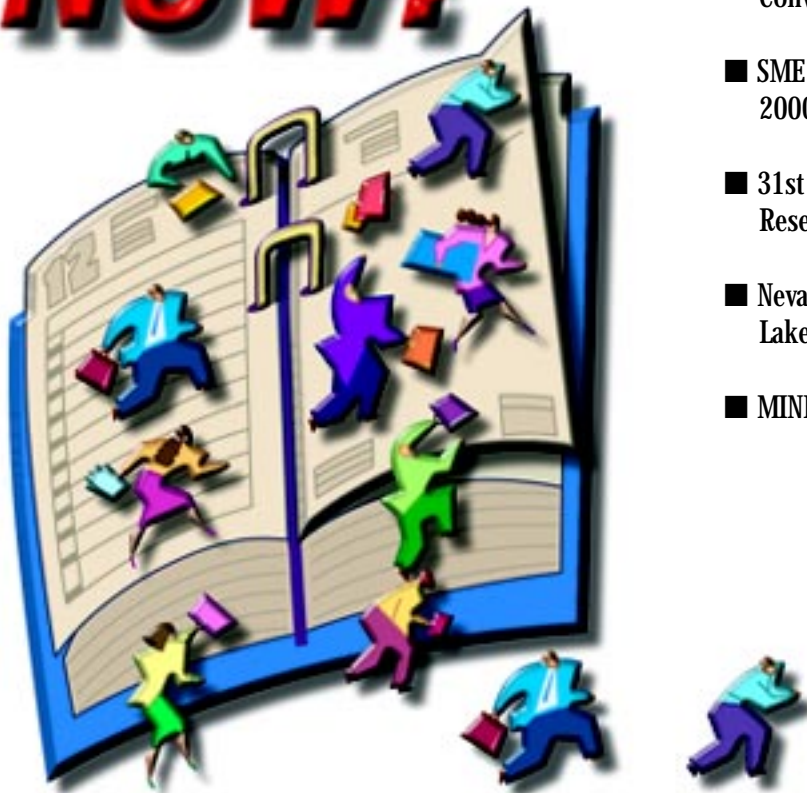
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# **NOW!**



- National Stone Association 16th Annual Convention, Jan 28-31, 2000, New Orleans, LA
- SME Annual Meeting and Exhibit, Feb. 28-Mar. 1, 2000, Salt Lake City, UT
- 31st Annual Institute on Mining Health, Safety and Research, Aug. 28-30, 2000, Blacksburg, VA
- Nevada Mining Association, Sept. (TBA) 2000, Lake Tahoe, NV (TBA)
- MINE Expo 2000, Oct. 9-12, 2000, Las Vegas, NV