



BULLETIN

February 1996

NATIONAL MINE HEALTH & SAFETY ACADEMY
Do Not Remove From Informational Services Branch
REFERENCE COPY

INSIDE:
Safety tips
Cold stress
Ramp construction
JAHSA scholarships

Holmes Safety Association Officers and Executive Committee 1995-1996

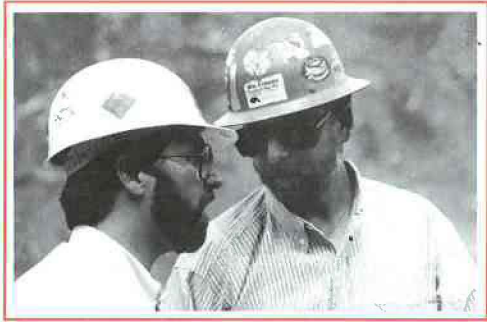
Officer	Name	Representing	State
President	John Shutack	Federal	VA
First Vice President	Steve Walker	Supplier	WV
Second Vice President	Fred Bowman	State	IL
Third Vice President	Gary Moore	Management	NM
Fourth Vice President	Roger Carlson	Labor	MN
Secretary-Treasurer	Robert Glatter	Federal	VA

Name	Representing	State	Name	Representing	State	Name	Representing	State
Barry Ryan	Federal	WV	H.L. Boling	Mgmt.	AZ	Robert Scaramozzino	UMWA	DC
Timothy Thompson	Federal	WV	Chuck Gessner	Mgmt.	AZ	Jeff Duncan	UMWA	PA
Bruce Dial	Federal	WV	Kevin Myers	Mgmt.	KY	Lex Prodan	UMWA	PA
Jerry Johnson	Federal	WV	Kyle Dotson	Mgmt.	AZ	Larry Frisbie	State	WA
Jim Myer	Federal	OH	Cheryl Suzio	Mgmt.	CT	Sam Vancil	State	IL
Robert Crumrine	Federal	OH	John DeMichiei	Mgmt.	PA	Ben Hart	State	FL
John Collins	Federal	OH	Richard Radakovich	Mgmt.	PA	Lee Graham	State	KS
Michael Lawless	Federal	WV	Ronald Corl	Mgmt.	PA	John Franklin	State	KY
Claude Narramore	Federal	VA	Jim Sells	Mgmt.	PA	Al Simonson	State	MN
Vern Gomez	Federal	VA	Myron Nehrebecki	Mgmt.	PA	Tom Gregorich	State	MN
Marvin Nichols	Federal	VA	Steven Reyba	Mgmt.	PA	Desi Apodaca	State	NM
Jesse Cole	Federal	WV	Andrew Hewitson	Mgmt.	PA	Doug Conaway	State	WV
Rexford Music	Federal	KY	Clifford Forrest	Mgmt.	PA	Tony Grbac	State	WV
Leland Payne	Federal	KY	Jon Merrifield	Mgmt.	OH	Douglas Martin	State	AZ
Joseph Pavlovich	Federal	KY	James Tompkins	Mgmt.	OH	Thomas Ward, Jr.	State	PA
Ron Deaton	Federal	KY	Mark Wharton	Mgmt.	CO	Joseph Sbaffoni	State	PA
Jon Montgomery	Federal	NY	Joseph Vendetti	Mgmt.	WY	William Garay	State	PA
Joseph Garcia	Federal	PA	William Craig	Mgmt.	WY	Paul Hummel	State	PA
Don Conrad	Federal	PA	Richard Burns	Mgmt.	WY	Ron Cunningham	State	OK
Donna Schorr	Federal	PA	Penny Traver	Mgmt.	MI	Phillip Johnson	State	KY
James Petrie	Federal	PA	Nancy Staley	Mgmt.	MI	Glen Rasco	State	GA
Bob Randolph	Federal	PA	William Vance	Mgmt.	NM	Jerry Duncan	Supplier	WV
Fred Hanson	Federal	CA	Gary Cook	Mgmt.	NM	Steve Lipe	Supplier	AZ
Doyle Fink	Federal	TX	Joseph Lamonica	Mgmt.	DC	Wayne Peterson	Insurance	MN
Martin Rosta	Federal	AL	Rick Wells	Mgmt.	KY	William Hoover	Emeritus	AZ
Dave Couillard	Federal	MN	Richie Phillips	Mgmt.	KY	Vern Demich	Emeritus	PA
James Salois	Federal	MN	Nelson Mueller	Mgmt.	TX	Harry Thompson	Emeritus	PA
Larry Ramey	Federal	CO	George Krug	Mgmt.	MA	Richard Machesky	Emeritus	PA
Judy Tate	Federal	OK	Lloyd Armstrong	Mgmt.	MN	Bill Powell	Emeritus	TX
Whitey Jacobson	Federal	TX	Greg Oster	Mgmt.	MN	Ford B. Ford	Emeritus	VA
Lonnie Gore	Mgmt.	WV	Frank Salas	Labor	AZ	Ronald Keaton	Emeritus	WV
Ernest Marcum	Mgmt.	WV	Henry Townsend	Contractor	TX	Irmadell Pugh	Emeritus	WV
Roger Ball	Mgmt.	WV	Larry Russell	Contractor	TX	Alex Bacho	Emeritus	MD
Adele Abrams	Mgmt.	DC	Joseph Main	UMWA	DC			

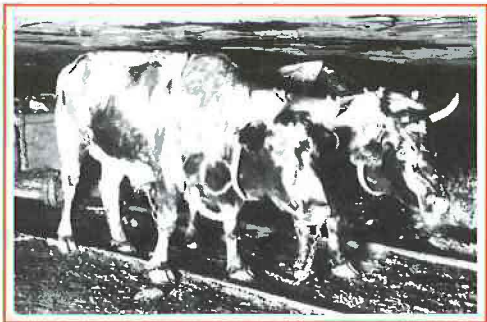
*This month's cover: A JOY 4LS longwall shearer, courtesy of Joy Technologies, Inc. We welcome **any** materials that you submit to the Holmes Safety Association **Bulletin**. We especially need color photographs (8" x 10" or larger—color negatives are acceptable) for our covers. We cannot guarantee that they will be published, but if they are, we will list the contributor(s).*

Because of the recent federal shutdown, we did not publish the January issue of the Bulletin. We regret any inconvenience.

contents:



Page 4



Page 10



Page 15



Page 18

To all mine, plant, and quarry workers 2

Government inventors honored 3

Reporting close calls or unsafe practices—is this “ratting on fellow employees”... or a safety tool? 4

Cold stress: preventive measures 5

Future looks dark for high-sulfur coal miners 6

JAHSA to present scholarships 7

Ground Control seminar held 7

Transporting coal: barges and railroads 8

SIUC to design, test technology for \$3 million coal-residue project 9

Mining the past... 10

Joint Mine Health and Safety Conference scheduled for March 13-14 12

Voluntary ramp construction reduces truck accidents 14

Certificate of Merit recipients 15

Safety tips that could save your life and/or property 16

Gun safety in the home 17

Can you put away your glasses? 17

Wylo Mine reaches safety milestone 18

China coalbed methane industry eyes foreign funds 20

Can you boost your own immune system? 21

Comfort (but no cure) for the common cold 22

Everything you need to know about hernias 23

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.

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 of the Mine Safety and Health Administration.

KEEP US IN CIRCULATION—PASS US ALONG

To all mine, plant, and quarry workers:

Every day you are required to perform a series of tasks. When you were new to your job, the tasks probably seemed a lot more complicated and difficult than they do now. As you gained experience, much of your work became routine. Unfortunately, the familiarity that has made your job seem easier has not provided you with an immunity to accidents.

A spotter moves behind a haul truck, and the truck backs over him. The driver of another haul truck backs over an unseen service vehicle. A driver neglects to buckle his seat belt and is then injured when his truck travels too fast down a ramp and turns over. A mechanic starts to repair the exhaust system on a service truck but fails to block the wheels, an electrical short in the starter causes the engine to start and the truck to roll forward and runs over him.

Familiar, routine jobs are sometimes preludes to depressingly familiar accidents: all of the "fatalities" described above actually occurred in 1995, but many similar stories can be found in records from past years. Why do people continue to wander into blind spots, drive too fast, fail to wear seat belts, and work on unsecured equipment? Dangerous behavior is obvious after an accident occurs, but apparently not obvious enough to prevent workers from engaging in it. In fact, there are a lot of people out there who believe that if they followed all the safety rules, they would never be able to get their jobs done.

The belief that safety drags productivity down is the greatest impediment to achieving safe production. Managers infected with the notion that rock being mined is more valuable than the people mining it are not fooling anybody when they say, "Safety First." Their idea of an accident reduction campaign is to tell their employees to be careful and to impose heavy discipline on anyone unfortunate enough to suffer an injury. Because of fear and intimidation, fewer accidents are reported, creating the illusion of a successful safety initiative. People treated as expendable come finally to accept hazardous working conditions as their lot in life, and risk-taking as simply doing what is expected of them.

Hard-nosed, "production first" managers can be convinced that safety contributes to production by reducing losses, but intellectual understanding is not the same as gut-level belief and commitment. A big problem with safety is that progress is measured negatively by counting accidents (system failures) and comparing the count from this year to last year's. "Success" is defined as "Fewer Failures." This is not very inspiring to someone accustomed to measuring success as "More Tonnage, More Profits, More Money."

To gain genuine commitment from both managers and workers, safety score-keeping needs to stop fixating on Things Going Wrong (TGW) and start measuring Things Going Right (TGR). Organizations with millions of hours of accident-free perfor-

mance do not achieve their records by wishing on a star. Identifying their TGR can provide you with a benchmark for discovering how your workplace compares, and what you need to do to achieve safer production. To get you started, answer the questions that follow. Your responses will help you to develop your own TGR list.

How many ways, and how often, does management demonstrate a connection to employees, and a commitment to their well-being?

When DuPont built its first explosives factories, the manager's house was always built next door. Few companies are prepared to demonstrate commitment so dramatically, but the best ones have managers who are visible, accessible, and trusted. Workforce BS detectors can easily distinguish between lip service and real commitment to safety.

Are safety and health activities integrated into business plans? Potential losses from accidents must be proactively identified and prevented. An accident-plagued business is a dying business.

How often are safety meetings held? The more you talk about Safety, the less you hear about accidents.

Do employees actively participate in developing work processes, procedures, and safety rules? Employees are more likely to follow rules they help to make themselves, and working in teams promotes a "look out for your buddy" climate.

Is training provided on a continuing basis to renew and upgrade work skills? To cope with constant changes in technology and increased responsibilities placed on survivors of corporate downsizings, quality training is essential. Employees must have access to the information they need to make safe decisions, whenever they need it.

How quickly are employee suggestions responded to? In addition to responding to suggestions, a successful company often implements them.

Are all incidents and near misses as thoroughly investi-

gated as accidents that result in injuries or property damage? No stone should remain unturned in efforts to identify the root causes of at-risk behavior. Results of investigations should be communicated to all employees as soon as possible.

Are systems in place to measure and reward safety achievements, as well as to provide negative consequences for ignoring safety standards? Most workers want to do a good job, and incentives to work safely are often more effective than punishments for unsafe acts.

Developing and expanding your TGR list is an excellent way for you to keep routine tasks from becoming death-traps. And as you get more TGR, you will also get "More Tonnage, More Profits, More Money." Those are measures all of your coworkers can support!

If you would like further suggestions on ways to improve safety at your operation, give your local MSHA office a call. The MSHA people are always eager to help you prevent accidents.

Reprinted from the August 1995 issue of Cal Quarryman's Safety Newsletter.

Government inventors honored

Denver, CO—Federal mining engineers Jay Lombardi and Philip Lindahl have received the 1995 R&D 100 Award for their invention of a coal air-lift hydrohoist. The two developed the novel transport system, which uses air and water to move coal up out of a mine, at the U.S. Bureau of Mines (USBM) research center in Denver.

The *R&D 100 Award*—a top research honor—recognizes the hydrohoist as one of the year's 100 most technologically significant new products. The awards are presented by *R&D* magazine in an international competition that draws entries from corporations, government labs, private research institutes, and universities.

Lombardi and Lindahl will be honored at a special ceremony at the Museum of Science and Industry in Chicago on September 19. An exhibit featuring the hydrohoist and other winning products will be on display there through October 14.

The hydrohoist provides a safer, more efficient way to move coal to the surface. Current coal transportation methods—conveyor belts, rail haulage, shuttle cars, and chain conveyors—have inherent safety risks. Belts are susceptible to fires and breaks; cars can derail, causing injuries and operational delays.

Lombardi and Lindahl's invention avoids these problems. The hydrohoist uses air pressure to push water up one vertical column in a U-shaped hydraulic loop. The water in turn carries coal up that column and out of the mine.

Lombardi, who conceived the original idea for the hydrohoist, has been a research engineer with the USBM since 1984. He is now working to develop environmentally sound mining technologies. A resident of Boulder, Lombardi has managed mines in the United States and overseas. He earned an Engineer of Mines degree from the Colorado School of Mines.

Lindahl worked for the USBM for 12 years before transferring this summer to the Labor Department's Mine Safety and Health Administration in Arlington, Va., where he serves as a mine safety and health specialist. A Pittsburgh native, Lindahl worked previously for a Pennsylvania coal research company. He earned a B.S. in Mining Engineering at Virginia Polytechnic Institute and an M.S. in that discipline at Queens University in Canada.

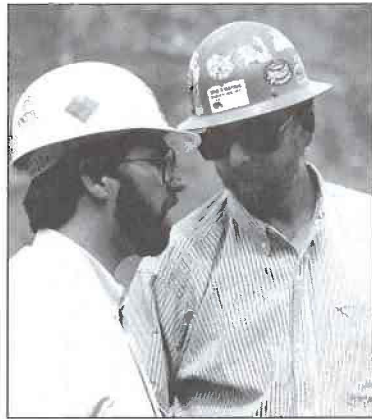
The USBM has won 32 other R&D 100 Awards since 1978. Bureau developments honored include mine rescue equipment, corrosion-resistant sulfur concrete, and technologies for recycling batteries, soldering aluminum, and cleaning up metal-contaminated water.

Reprinted from a Bureau of Mines news release of September 19, 1995. For further information contact Sandy Cleva at (202) 501-9657.

4

Reporting close calls or unsafe practices— *is this “ratting on fellow employees” ... or a safety tool?*

During the first years of our lives, all of us were probably pretty good at “ratting” on our brothers, sisters, or friends. Telling on each other was just part of growing up. As you grew older, “ratting” slowed down. My twelve and thirteen year olds, who continu-



ously told on each other years ago, have almost stopped. More than likely, you probably wouldn't think of telling on a fellow employee. Short of seeing or knowing someone who was engaged in illegal activity, you probably wouldn't “rat” on anyone. All through your adult life you have lived by the idea that “telling on someone” or “ratting” was immature and not fair. Ratting on a fellow employee has been considered almost criminal.

Not telling someone about an unsafe practice or a close call that happened to you or a fellow employee is not criminal—but it may be fatal! It could result in you or a co-worker being injured or killed.

The Safe Acts program at your

mine is all about “ratting.” It's identifying conditions, equipment and actions that can result in an injury. Then it is reporting what happened so the problem can be communicated to everyone before someone else gets hurt doing the same thing.

Think of it this way: Suppose a brake on a haul truck or electrical component on a continuous miner caused a miner in another pit or section to suffer a serious injury. Would you want to know what happened if you or a co-worker operated the same kind of equipment? I am sure you answered yes. By knowing what happened, you could avoid the same outcome.

Or think about this: You see someone on the haul truck or continuous miner do something unsafe. Would you warn him or her? Guarantee it! There is no way you are going to let your buddy or anyone else get hurt!

But would you tell your boss what you saw? A lot of miners tell me they would not. After all, that would be “ratting,” and more importantly, the problem was corrected. WRONG. The problem was corrected with the person you told ***but what about the rest of the miners at your mine, division, company, or industry?***

Reporting unsafe conditions, equipment, practices and close calls to your boss or safety manager does a lot more than help the person you warned. It alerts the rest of the operation about the problem. If it happened around you, it's very likely happening elsewhere. Your

reporting may prevent someone you know, or don't even know, from having a serious injury.

Unlike our childhood “ratting,” your reporting of a safety concern doesn't involve names. It also doesn't involve reprimand, suspension, or other negative consequences. The mine safety department doesn't need a name, only the facts. If you write out or tell someone what you saw someone do, you don't have to list their name or yours.

Once the facts are gathered, the situation can be investigated, solutions identified and communicated to the entire workforce. After the issue is communicated to everyone, the chances of a similar incident occurring go way down.

One more thought about solving the problem and identifying solutions. The brightest and most knowledgeable people should be involved. Those people are YOU! The men and women who operate the plant, roof bolters and shovels know the safest way to do the job. Share your skills and knowledge. Prevent someone from being injured by making them aware of unsafe conditions. If you do, we will ultimately achieve our goal of zero injuries.

So go ahead... report an unsafe practice. It is the next step toward our goal: Being the safest, lowest cost, most productive miners in the world.

Reprinted from the third quarter 1995 issue of the Arch Mineral Review.

Danger: in and around mines**Cold stress: preventive measures**

Miners can more easily protect themselves from the effects of cold stress than heat stress. Exposure to a cold environment, however, can cause health problems and serious injury.

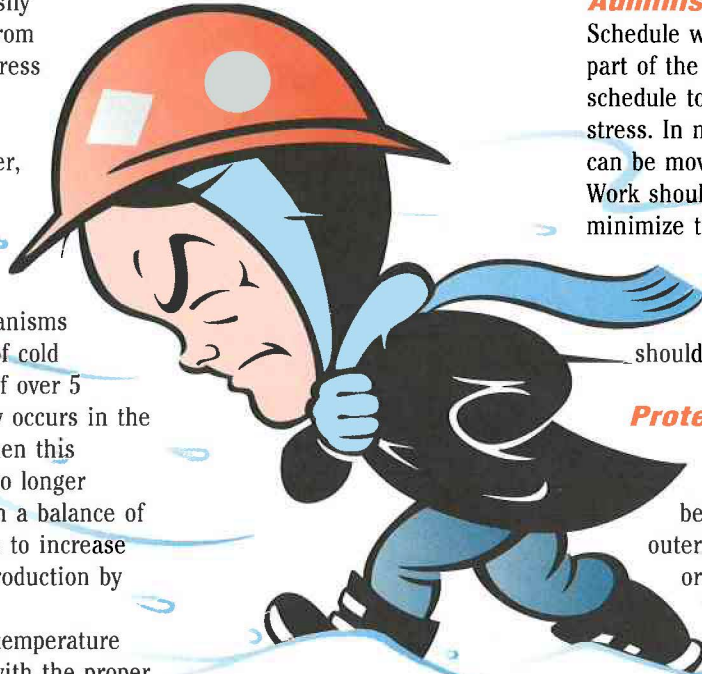
The body uses two protective mechanisms to limit the impact of cold stress. A reduction of over 5 percent of blood flow occurs in the fingers and toes. When this vasoconstriction is no longer adequate to maintain a balance of heat, the body works to increase its metabolic heat production by shivering.

A worker's body temperature can be maintained with the proper insulation from clothing. However, the cold insulating properties will greatly diminish when the clothes become wet from water or sweat during intensive physical work.

To prevent cold stress, miners should consider several factors from the individual worker to the environment. Cold stress injuries can be limited or prevented by acclimatization, water replacement, medical supervision, proper clothing, and training. The cold environment can be controlled through engineering controls, work practices, work/rest schedules, environmental monitoring, and consideration of the wind-chill temperatures.

Acclimatization

Some degree of acclimatization may be achieved, but the physiological changes are usually too minor and require exposure to uncomfortable cold environment to induce them. Miners at greater



risk are obese workers, older workers with circulation problems, and workers using certain medications and drugs.

Dehydration

Working in cold air causes significant water loss through the skin and the lungs. Drink warm, **nonalcoholic** drinks or soup to replace calories and fluids. A well-balanced diet and sensible intake of salt are needed.

Control measures

General spot heating, warm air jets, and radiant heaters can be used in some work areas. Shielding the work area should be considered if the windchill factor at the job site falls below 30°F. Miners should be encouraged to use shelters regularly. Metal handles of tools and control bars need to be covered with thermal insulating materials.

Administrative controls

Schedule work during the warmest part of the day with a work/rest schedule to help reduce cold stress. In many cases the work can be moved to a warmer area. Work should also be arranged to minimize the need to sit still for long periods of time. Adequate break time for intake of liquids should be allowed.

Protective clothing

It is important to preserve the air space between the body and the outer layer of clothing in order to retain heat. The more air pockets, the better insulation. The most important parts of the body to protect are the head, face, and feet. When the head is exposed, **40 percent** of body heat can be lost. Recommended clothing includes a cotton T-shirt, shorts, or underpants worn under cotton or wool thermal underwear. Socks with a high wool content are best with a second inner pair made of cotton. Insulated boots should be waterproof and socks changed when they become wet. A wool shirt or wool sweater should be worn over a cotton shirt. A wool cap provides the best protection. Hard hats are available with winter liners. In cold winds a ski mask or scarf is vital. Wool mittens are more efficient for retaining heat than gloves. Several layers of clothing are better than a single heavy outer garment.

Reprinted from the Oct.-Dec. 1995 issue of the Texas Mine Safety Update—Mine and Quarry Division, Texas Department of Labor.

6

Future looks dark for high-sulfur coal miners

By Ted Bridis

Morganfield, Ky. (AP)—More than 400 feet underground, the miners of Peabody Coal Co.'s Camp No. 1 toil beneath the cornfields of western Kentucky in a tangible darkness. The only illumination: helmet lights powered by heavy batteries slung from miners' belts. It is dangerous work. Miners carry emergency respirators. Blue reflectors mark the way to safety in case of a disaster. More than 40 stories beneath the surface, Peabody's miners work to feed the appetite of the nation's coal-burning utility plants. But at a time when overall coal production nationwide is near record levels, the Peabody mine and other parts of the industry are struggling with a life-and-death crisis. Production from high-sulfur coal mines in Indiana, Tennessee, Pennsylvania, northern West Virginia and western Kentucky this year is off as much as 30 percent, and workers face widespread layoffs. The future looks as dark as the deepest mine shafts. The business, Peabody production manager Bob Danko says, "is about as low as I've seen it." The industry almost unilaterally blames the federal Clean Air Act. Limits on sulfur emissions in the law require power plants to install expensive filter equipment or to instead buy low-sulfur coal, much of it mined in Wyoming and parts of Southern West Virginia and eastern Kentucky.

Those limits went into place this year. Even tougher restrictions take effect in January 2000.

Utilities burn about 80 percent of the nation's coal to produce

electricity. High-sulfur coal is more energy-rich but produces more sulfur dioxide—linked to acid rain when burned.

But utilities, faced with conflicting demands of producing low-priced electricity and complying with the Clean Air Act, are generally opting to burn low-sulfur coal instead of installing high-tech scrubbers to burn high-sulfur coal. "There have been high-sulfur mines where there have been layoffs in favor of the low-sulfur producing areas," said John Grasser, a spokesman for the National Coal Association in Washington. "Those guys are indeed hurting."

"The goal is to have clean air," said Carl Zichella of Madison, Wis., the Midwestern regional director for the Sierra Club. "The goal is being achieved. The law is working as it was intended to work." Surface mines are affected, too.

"You make your margins tighter, watch your supply costs, try to be as efficient as you can," said Howard Ratti, vice president of eastern operations for Andalex Resources Inc., which runs a high-sulfur coal surface mine near Madisonville in western Kentucky.

In Indiana and Tennessee, coal production is down nearly a third through mid-September, the coal association says. It's dropped nearly 16 percent across western Kentucky in the so-called Illinois Basin, but is booming in eastern Kentucky's low-sulfur mines.

No region benefits more than the West, where coal also is naturally low in sulfur and found

in huge seams that are relatively shallow and accessible. That makes mining less expensive, even considering the higher costs of shipping to Eastern cities.

The coal association predicts production to rise nearly 1.5 percent over last year in the West to 469 million tons. The East—with more high-sulfur coal—is expected to produce 562 million tons, but that's a decline of 1 percent from last year.

Grasser said that although times are tough at high-sulfur mines, overall demand for coal is strong. The coal association counts 732 million tons through mid-September and predicts a record 1.03 billion tons by the year's end.

But the demand isn't there for the workers in the darkness of Peabody's Mine No. 1. Still, there is some hope.

Zichella of the Sierra Club describes utilities burning a combination of natural gas and high-sulfur coal to make it more environmentally friendly. The cost of high-tech filters will drop.

Every single time a pollution law goes into effect, industry complains that the cost will overwhelm them.

"It never does," Zichella said.

Zichella is non-committal about the long-term outlook, however. "Does that mean they'll be able to burn high-sulfur coal in the future?" Zichella said. "I don't know."

Reprinted from the Sunday, October 8, 1995 edition of Charleston Newspapers Charleston Gazette.

JAHSA to present scholarships

The first annual Joseph A. Holmes Safety Association Scholarships will be presented at the National Council Meeting in Columbus, Ohio on June 6, 1996. The Joseph A. Holmes Safety Association endeavors to promote health and safety within the mining industry. The Association believes 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.

This scholarship program shall be open to persons currently employed in the mining industry, safety and health fields, high school seniors, or college students

who meet the application requirements.

For additional information, or to request a college scholarship application, contact: Cheryl Ann Suzio, Chairperson, Scholarship Committee, P.O. Box 2253, Meriden, CT 06450. Telephone: (203) 237-8421. Information and applications are also available from the following committee members:

Al Simonson
South Central Technical College
1920 Lee Blvd. N.
N. Mankato, MN 56003
(507) 389-7320

Sam Vancil
Illinois Department of Mines & Minerals
502 E. Main St.
Benton, IL 62812
(618) 439-9111

Leland Payne
Mine Safety and Health Administration
P.O. Box 91
Beaver Dam, KY 42320
(502) 274-9628

Harry Tuggle
United Steelworkers of America
5 Gateway Center
Pittsburgh, PA 15222
(412) 562-2587

Ground Control Seminar held

November 1, 1995: The Department of Environmental Protection, Bureau of Deep Mine Safety, and Mine Safety and Health Administration, with cooperation of the United States Bureau of Mines, Pennsylvania Aggregates and Concrete Association, The Pennsylvania State University, and Pennsylvania Non-Coal Mine Operators, conducted a "Ground Control Seminar" at the Ramada Inn, Somerset, Pa. The combined efforts of many produced this seminar in an effort to promote mine safety in our non-coal limestone mines. This seminar was conducted with professionalism and contained a variety of topics pertinent to roof control.

- Factors affecting ground instabilities in limestone
- Techniques to detect and monitor roof movements
- Remote sensing applications for metal and nonmetal mines
- Hazards related to scaling operations
- Design of roof systems for underground limestone mines
- Key factors affecting ground conditions found in northeastern limestone mines

This conference was attended by 124 participants from throughout the United States. The immediate feed back was positive and welcomed by industry. Our ongoing efforts and commitment to provide education and training to the mining industry was

exemplified by this seminar. Deep Mine Safety personnel performed in a professional and most appropriate manner and deserve applause for their efforts. The presenters of the topics listed above were also regarded as top professionals in their field and were greatly appreciated by the non-coal mining industry. The Department's commitment to excellence in promoting the health and safety of the miners was applauded by the seminar recipients.

Contact person: Paul L. Hummel
(telephone: 717-621-3139) of the
Pennsylvania Department of
Environmental Protection,
Bureau of Deep Mine Safety,
5 West Laurel Blvd., Pottsville, PA 17901

New technology...

The first on-battery tester will be released this spring by Eveready. The Energizer on-battery tester—available on AA, C and D cell sizes—utilizes thermochromic

technology that measures the amount of power in a battery based on the amount of heat generated in the tester. To test, two green dots are pressed firmly for 10 seconds. At full power, the

word 'Good' appears in the tester window. When the tester stays completely black, less than 25 percent of the power is remaining.

Reprinted from the January 10, 1996
edition of *Industry.Net Report*

Transporting coal: barges and railroads

By Foy McDavid

Coal barge cargoes move on the eastern river system to Southern utilities, river industries and export sites.

More than 50% of the federal Tennessee Valley Authority's coal supply comes by river barge to TVA fossil plants across the Mid-South, says Larry Bray, TVA technical specialist in water management. The coal is both low and high sulfur in generating electricity to parts of TVA's seven-state utility service region. High sulfur coal is used with new scrubbers in TVA plants filtering the emissions to comply this year with Phase 2 of the Clean Air Act.

The new scrubber-equipped Cumberland Fossil Fuels Plant near Nashville and other TVA plants like Shawnee, Paradise, Allen, Johnsonville, Widows Creek, and Colbert received a total 20.2 million tons (18.3 metric tons) of coal from an estimated 12,660 barges during federal fiscal year 1994. That's how much TVA's cargo deckhands report unloading. Other TVA fossil fuel plants, traditionally called steam plants, are Gallatin near Nashville and Bull Run, John Sevier and Kingston plants in coal-rich East Tennessee.

New technology...

Blind spots for truck drivers may become more visible with Delco Electronics' new Forewarn Side Detection System (SDS) for class 6, 7, and 8 heavy-duty trucks. The SDS uses microwave radar technology to detect moving objects on the right side of the truck.

The other nearly 50% varied barge coal from Appalachia and elsewhere eastern coal is delivered to Deep South utilities like Gulf Power Company, steel-making firms and coal export ships steaming out of Alabama and the Inland Waterway System's other Gulf Coast ports.

Ron Riberich, TVA navigation economist in water management, says comparing trucks and trains to barges hauling coal shows "barges use less fuel per unit of cargo, causing less air pollution." So, barges help industries like coal and governments operate more competitively "locally, nationally, and internationally."

By next year at Mobile, the Alabama State Docks will have a \$14 million expansion processing Illinois and Venezuelan coal through McDuffie Island Coal Terminal. The nearby former Naval Station Mobile may also be brought into play as part of the State Docks overall infrastructure handling South American import coal and exports like Illinois coal.

Alabama State Docks is the second largest coal terminal in America and the new equipment expansion by early 1996 will process 6.8 million coal tons yearly for Gulf Power Company; Revenues of

Alabama state government, which owns the Docks, will finance the \$14 million expansion.

At Hampton Roads, Virginia, 25 million tons of coal were exported in 1994—coal exports were expected to increase this year through Norfolk Southern Corporation's Lambert's Point coal terminal on the Elizabeth River. Norfolk Southern brings the coal in railroad cars from West Virginia downhill to Lambert's Point, the 800-foot seagoing colliers receive and ship the coal to Europe, Latin America, and Japan. Norfolk Southern, meanwhile, replenishes its coal reserves—mined by royalty-paying independent operators—with the company buying steam coal reserves for eventual electric production.

All that Norfolk Southern transport and accumulation activity preceded the corporation's April 26 announcement that transportation revenues in the first quarter of 1995 were \$1.14 billion, up 6%. Nearly one-third 1994 revenue: coal-hauling.

Foy McDavid is editor of County Newsletter in Knoxville, Tennessee.

Reprinted from the June 1995 issue of Acquire's COAL TODAY.

The unit sets off an audible alert when a lane change is signaled and provides a visual alert (flashing light) located on the outside side mirrors whenever a moving object is in the blind spot zone. Its target-discrimination software minimizes false alarms such as bridges, guard rails, parked cars, or vehicles coming from side roads. The micro-

wave radar system is insensitive to weather and dirt build-up, making it suited for extreme road conditions. SDS is designed to give drivers a few more seconds to react to dangerous situations while changing lanes or merging.

Reprinted from the December 20, 1995 edition of Industry.Net Report.

SIUC to design, test technology for \$3 million coal-residue project

Fueled by a grant of more than \$2 million from the U.S. Department of Energy's Morgantown, WV, Energy Technology Center, mining experts from Southern Illinois University at Carbondale will join industry in a two-pronged experiment to dispose of coal residue safely while preventing mine subsidence.

Plans call for coal residue from Illinois power plants to be injected into mined-out rooms in Peabody Coal Co.'s No. 10 mine at Pawnee, IL, in southeast Sangamon County.

SIUC and industrial partners will contribute an additional \$1 million to the project, and \$120,000 in funding will be provided by the Illinois Clean Coal Institute, a research arm of Illinois' Department of Energy and Natural Resources.

The project will run for four years.

"We are delighted that the Department of Energy recognizes the promise inherent in this proposal," said SIUC President John C. Guyon. "If successful, this technology could solve a host of environmental problems while expanding coal markets nationwide."

Successful field tests could clear the way for environmentally safe underground disposal of combustion wastes such as fly ash, bottom ash and sludge left when power disposal of combustion wastes such as fly ash, bottom ash and sludge left when power plants burn coal. Most of these residues now wind up in landfills or other aboveground sites.

While such materials are not considered toxic or hazardous, they do require special handling, said Y. Paul Chugh, project director and

chairman of SIUC's mining engineering department. That's because under certain conditions, these residues may release heavy metals.

The research team will assess environmental impacts on land, air and water as well as health and safety concerns as part of the project.

In addition to providing a better means of waste disposal, the experiment also could minimize sinking at abandoned mines—a costly problem that plagues Illinois and has damaged houses, schools and businesses built over these old sites.

"I honestly believe by the time we finish this project we will be the leaders in effective management of residues in abandoned, underground mines," Chugh said.

In conducting the field tests, Chugh's team—comprised of SIUC mining and civil engineers and a geologist—will work with a coal company, power plants, railroads, designers of special shipping containers and designers of pressurized pipes that carry the residue.

Before the process can be adapted commercially, new transportation technologies must be tested. SIUC will test two methods.

"One will be based on the transportation of mixtures of dry residue with compressed air and the other will be concerned with the disposal of a mixture of scrubber sludge and dry residues."

New laws have made improved disposal methods crucial, Chugh said.

Stricter Clean Air Act require-

ments will mean that more U.S. industries will invest in clean coal technologies that generate such residues. And landfill space is in short supply, while disposal costs are skyrocketing.

"The United States is currently producing about 100 million tons of combustion residue a year," Chugh said. "That amount is expected to double by the year 2000."

Chugh has come up with a promising solution.

"First, residues will be mixed with a little water to make slurry. Then, we will bore 400 feet down into the old part of the mine and inject the slurry. Our goal is to fill a 600-square-foot panel, or room, from a single borehole in the center.

"The entire process will be highly automated. An underground laser system will tell us where the material goes. After about a week, the slurry will harden like cement, stabilizing the old mine," Chugh said.

Researchers expect to spend much of the first year running laboratory tests and setting up transportation networks. Actual field trials could begin in 1995.

Others involved in the project are the Illinois State Geological Survey, and the Henderson, Kentucky-based Peabody Coal Co. and Peabody Coal Services Corp.

The Illinois Central Gulf Railroad and the Norfolk Southern Railroad have both agreed to help transport residue to the test mine.

Reprinted from the December 1993 (Volume 28, Number 5) issue of the National Coal Leader

10

Mining the past...

Situated 113 miles northwest of Philadelphia and nine miles east of Hazelton, is the Eckley Miners' Village. Surrounded by black silt ponds and strip mining pits, it would not ordinarily arouse a visitor's emotions, yet an examination of Eckley's past tears at a visitor's heart as it reveals many of the raw edges of the 19th century

towns, in the area, Miners Village was privately owned until 1971, but has since become a National Register District. The village was named in honor of Eckley Coxe, grandson of the original landowner Judge Tench Coxe.

The main street is paved now, but originally the 50 company-built homes lined only a dirt road. Built

breaker and other artifacts of the era complete the pictorial background of how coal miners worked and lived when coal was first discovered there in the 1850s.

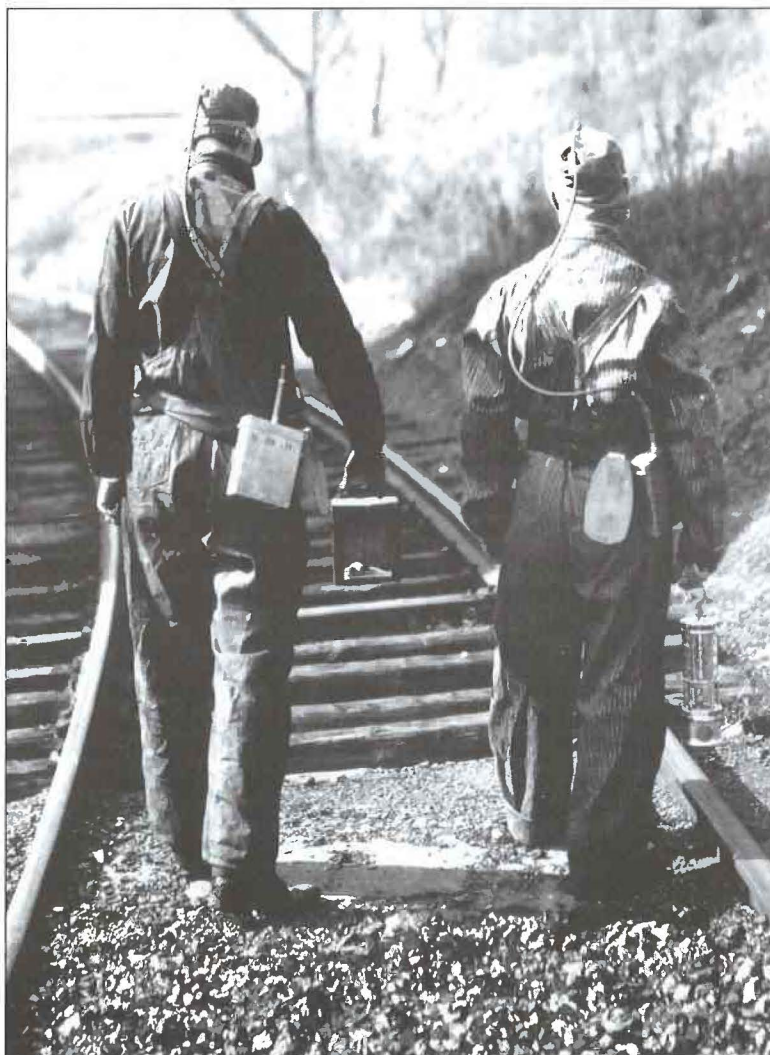
But what gives this 100-acre village a sense of both the past and the present are its inhabitants. For, unlike some restorations, Eckley Miners' Village does not close its doors after visiting hours. Its houses are inhabited by modern residents, almost all of whom are descendants or relatives of miners who worked the pits and tunnels of the past.

All of the 15 residents who presently occupy some of the homes are required by law to show their ancestry; most of them are English, Welsh, German, and central Europeans. Some have lived most of their lives on the main street of Miners' Village. Many, like Mrs. Helen Sikora, sitting peacefully in a chair on her front porch, can remember a history before they arrived.

"I've lived in this house for 44 years, but my husband, who worked the mines, lived here for 60 years," she proudly recalls.

In the busy days of the 19th century, Mrs. Sikora would not have had the time to sit on her front porch. Because of their husband's low wages, many of the miners' wives had to not only take in boarders, but also supply their meals and wash their clothes. It was not uncommon for as many as 15 people to share a four room house. Because the mines were worked in three long shifts, the wife had to contend with only five boarders at any one time of the day. But this still left little time for rest.

Most women in the village had a set schedule: Monday, washing; Tuesday, ironing; Wednesday, baking; Thursday, sewing; Friday, house cleaning. Saturday was



Two Pennsylvania miners on their way to work. Note that the miner on the left is holding, in his right hand, the canary's equivalent of a Japanese waltzing mouse—for gas detection.

and the brutality of the mining industry.

Today, Eckley is a reminder of Pennsylvania coal mining history brought vividly to life. One of the many "patch towns," or mining

of boards held together by narrow strips of wood (batten) [this method of construction is referred to as *board and batten*], the houses are part of the original town. Two churches, a company store, a coal



A workman trapped in 1916 when tracked equipment and a passing trip collided, a frequent occurrence in the early days of mechanized mining.

reserved for shopping. Cooking was daily, and the stove was lit through most of the day, supplying heat and hot water for washing her family's and the boarders' clothes. Even the arrival, toward the end of the century, of primitive washing machines with hand wringers did little to lessen the workload.

Eckley Miners' Village has however, a more modern claim to fame that blends harmoniously with its recreation of the past. In 1968, Paramount Pictures chose Eckley as the site for their film, "The Molly Maguires," which starred Sean Connery and Richard Harris. The film depicted a group of 1870s terrorists who fought to better conditions for Pennsylvania coal miners and vividly portrayed the harsh existence of early miners. Prior to the actual filming, the movie company made some changes to the original village which still remains.

Looming over the area is a stage set that appears to be a 60-foot high breaker, where mined coal was dropped from the top of the building to roar and tumble downward to the ground. Near the bottom, the "breaker boys" worked.

These boys, some as young as 8,

would work 10 to 12 hours a day, six days a week. Because the coal was mixed with slate, slag and rocks, they would sit on benches removing the unwanted foreign matter that rushed by. Using bare hands, it was only a matter of time before their fingers and palms were cut and bleeding. Because the condition never had a chance to heal, it was called "red top". It was not until 1916 that newly enacted child labor laws kept children under 16 years of age out of the mines.

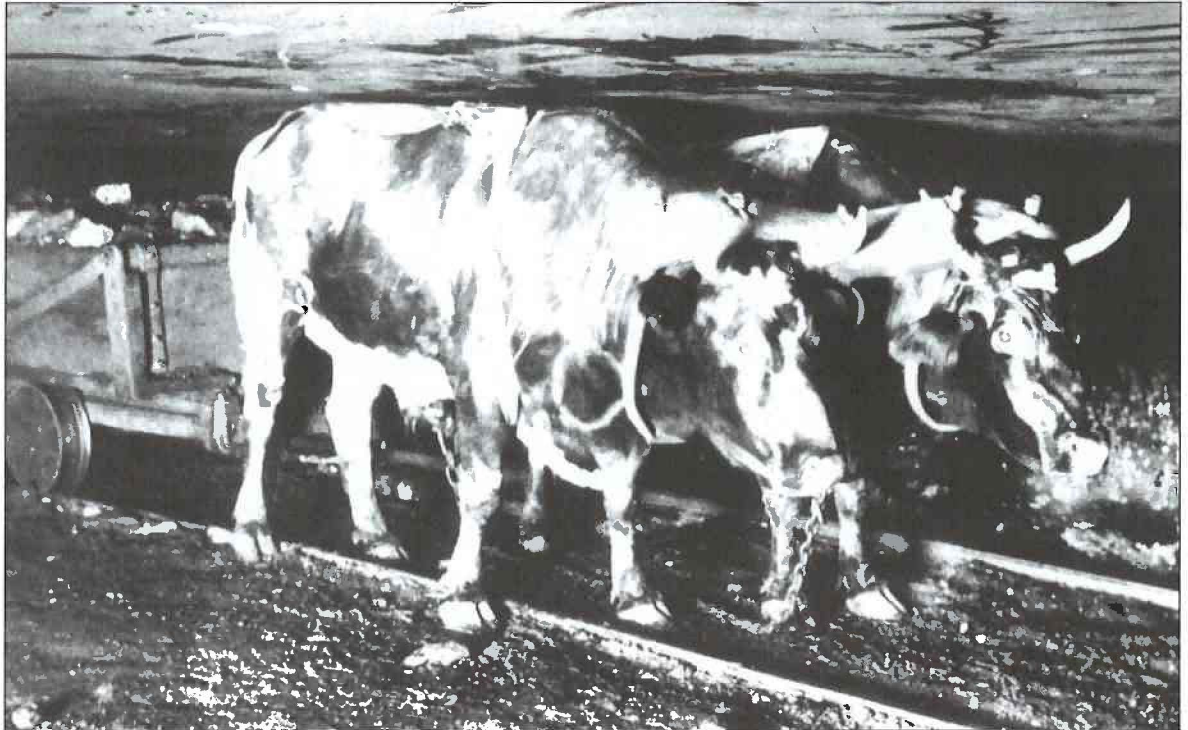
Just as Eckley brings the miners' living conditions to life, 50 miles north, Lackawanna Coal Mine Tour, captures their working world in a mine area now open to the public. A working deep-slope anthracite mine that employed hundreds of men as late as 1966 lives in Scranton's McDade Park. It is surrounded by a tippie area, which is a temporary holding site where coal was kept until it was transferred to the breaker two miles away. A seven-foot fan, used to ventilate the mine shafts, is situated in the fan house. A mine car, pulled by a hoist, travels underground at a 25-degree angle for a quarter of a mile until it reaches a point 300 feet below ground where the temperature

fluctuates between 48 and 55 degrees.

When mining first began, oil lamps were the only form of illumination. Now, the main underground road—the gangway—is electrically lit. Between 1854 and 1916, conditions were unbearable. Then, the miners' only tools were dynamite, a long hand drill, a type of crowbar, a flame safety lamp used to test for gas, and a pick and shovel. When a section of coal was blasted, coal dust darkened the area, causing choking and coughing. Most miners contracted black lung disease as they breathed the black dust, and tuberculosis was common.

A two-man team would dump the chunks of coal into a wooden coal car that was pulled to the surface by a hoist. The work was difficult and poorly paid, but the breaker boys' lot was the worst. Some of the luckier ones would work underground taking care of the mules. In some of the mines, the mules were brought to the surface daily, but in many cases, they were permanently stabled underground; most eventually went blind.

Rock falls, premature blast, gas explosions, and floods were common



A pair of oxen used in turn of the century mining.

dangers for the miners. Death was not uncommon.

Every mine had an emergency exit, but many of the miners were illiterate. Following an explosion or fire, they couldn't read escape signs and had difficulty reaching the outside. Because the mules were more familiar with the subterranean passageways, the miners would often release them from the stables and follow them to the surface and safety.

Gradually, the conditions improved. Oil lamps were replaced by electric lights; a small electric car replaced the mules; working hours were reduced; a detonator was used instead of a match to ignite the dynamite. But black lung and accidents remained an integral part of the mining operation.

The narrow, dimly lit tunnels, with jutting sections of shiny black coal that threaten to rip aside

protective clothing, leave a dark and depressing visualization of the conditions that miners encounter even now. Emerging from the mine, with the sunlight streaming from the sky, a visitor will find that the mental impact is difficult to erase.

Reprinted from the September 1995 issue of Coal People magazine, Charleston, WV.

Joint Mine Health and Safety Conference scheduled for March 13-14

The Fourteenth Joint Mine Health and Safety Conference is scheduled for March 13-14, 1996, at the Westin Crown Center in Kansas City, Missouri. The fee to attend the conference is \$60 per person.

The conference committee is working to provide an informative conference that includes motivational speaker Jeffrey Zelms, president of Doe Run Mine, whose talk is entitled "Enhancing the Image of Mining."

Mr. Davitt McAteer, assistant secretary of labor for Mine Safety and Health Administration (MSHA), and Mr. Vernon Gomez, metal and nonmetal administrator, have accepted invitations to speak.

Recipients of the Sentinels of Safety Awards will receive their awards at the luncheon. The Sentinels are awarded to the mining organizations in each group that have worked the greatest number of man-hours in

a year without a lost-time injury.

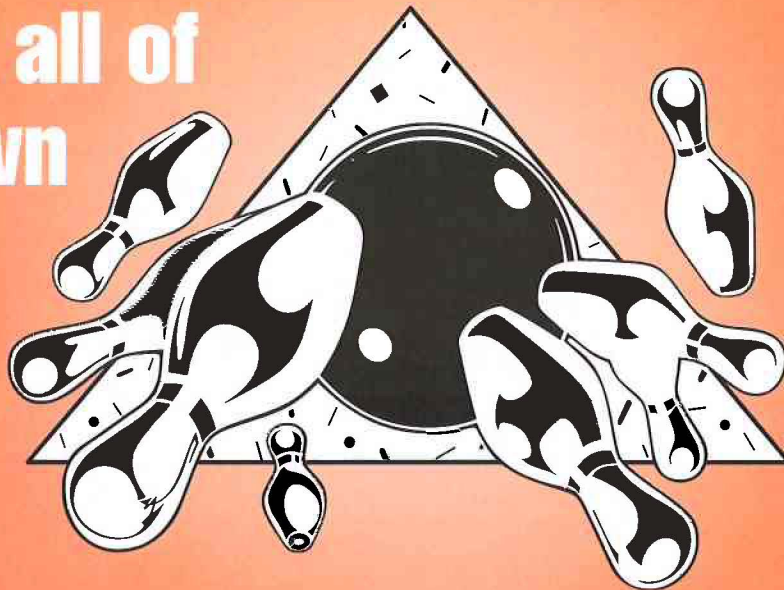
If you have any questions about the conference, please call Mr. Whitey Jacobson at (214) 767-8401, ext. 246. If you wish to attend the conference, please call TMSHP (IED) at (512) 4714633, or fax to (512) 4714695.

Reprinted from the Jan.-Mar. 31, 1996 edition of Texas' Mine Safety and Health Program's Texas Mine Safety Update.

WINTER ALERT

October through March 1995-96

**You'll knock all of
the pins down
when you
take extra
care with:**



- **Ventilation**
- **Mine examinations**
- **Rock dusting**
- **Control of ignition sources**

- ✓ A drop in barometric pressure can increase release of methane in underground coal mines. Always maintain adequate mine ventilation and make frequent checks for methane and proper air flow.
- ✓ Make frequent visual and sound checks of the mine roof during each shift. NEVER travel under unsupported roof.
- ✓ Control coal dust with frequent and liberal applications of rock dust. Maintain water sprays and other coal dust suppression devices in good working condition.
- ✓ Maintain and examine mine ventilation systems to ensure abandoned areas are adequately ventilated and bleeder systems are functioning properly.
- ✓ Know your mine's ventilation plan and escapeways. Properly maintain methane detection devices. Communicate changing mine conditions to one another during each shift and to the oncoming shift.
- ✓ NEVER smoke in an underground coal mine!

U.S. Department of Labor — Robert B. Reich, Secretary
Mine Safety and Health Administration — J. Davitt McAteer, Assistant Secretary



14

Voluntary ramp construction reduces truck accidents

As part of the ongoing effort to minimize mine related accidents, the Office of Miners' Health, Safety & Training has initiated a

program which zeros in on truck haulage accidents. In recent years, as fatalities have decreased to the point where the long sought "zero fatal year" is an achievable goal, truck haulage

has become a focal point for further reducing fatalities and serious injuries.

The most common haulage presence of escape ramps, a fairly common sight along many Appalachian highways.

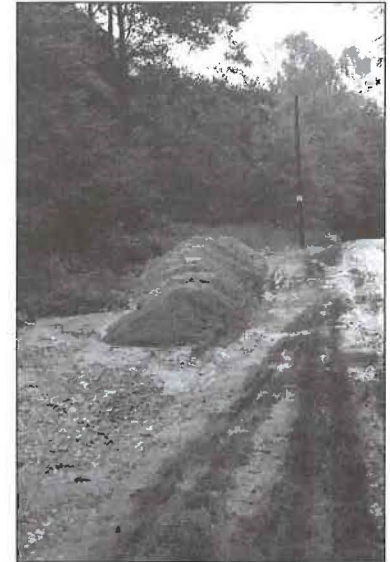
Rod Wallace, Surface

Rensford Processing in Fayette County is one of MHS&T's success stories. The company voluntarily built five escape ramps with straddle berms along its 2.5 miles of haul road. Right, each ramp is preceded by a sign. Far right, ramps are along placed points of the haul road where drivers are most likely to lose control.



program which zeros in on truck haulage accidents. In recent years, as fatalities have decreased to the point where the long sought "zero fatal year" is an achievable goal, truck haulage

accident is the runaway truck, in which the driver loses his brakes, particularly on the steep grades of southern West Virginia. The most logical solution to runaway vehicles is the



Inspector-at-Large for MHS&T, supervised a mine-by-mine survey of West Virginia operations last year, identified problems areas and then set about convincing the operators of the wisdom of carefully constructed, well maintained ramps.

"Our results have been very encouraging," Wallace reports. "This is purely voluntary on the part of the companies and so far, we've had tremendous cooperation. Obviously, there is some construction cost involved, but there is an industry wide interest in accident reduction from both management and labor. Then too, operators realize that, in the long run, accident prevention is a lot more cost efficient than accidents, and

responsible operators realize that.

The idea of escape ramps is not a new one. The innovative part of the program is the service provided by MHS&T in identifying potential problem areas and working with the company on corrective measures. "A lot of companies have been utilizing escape ramps for a long time," says Wallace "Often, our role is to demonstrate the need for more ramps, or alternative engineering and construction of existing ramps, or better maintenance.

"We've made a lot of progress with this program, but we still have a way to go. We would encourage any mine operator with questions about escape ramp construction or haulage safety in general to be in touch with our office." Wallace can be reached at the Oak Hill facility of the Office of Miners' Health, Safety & Training at (304) 469-8100.

Reprinted from the October 1994, number 163, issue of the West Virginia Coal Bell.



At left, straddle berms constructed from soft material serve to quickly slow the momentum of a runaway truck. The ramps are angled to permit the driver to guide his truck into them with a minimum of steering.

'Certificate of Merit' recipients

On February 17, 1995, the crusher at the face went down. The problem was determined to be a broken drag chain. The crew started the long process of shoveling the salt out so they could get to the chain and fix it. One of the crew members named Curtis, jumped to the floor from the tail pulley which was about 3 feet off the ground. He had been standing on it to reach the salt better. In the process of jumping from the locked out equipment, he slipped and fell backwards striking his head on the crusher. This resulted in a head wound that was bleeding profusely. Bob Smith (driller, and member of the mine rescue team) saw the accident and rendered aid with the help of Lonnie Sidebottom (powderman). Between the two of them they had the bleeding stopped by the time they got to the breakroom. They



Left, driller Bob Smith and powderman, Lonnie Sidebottom proudly display the 'Certificates of Merit' they received earlier this year.

then proceeded to the shaft to seek medical attention. Curtis then was treated for his head wound at the hospital. This accident could have been a lot worse if it wasn't for the quick action of Bob Smith, and Lonnie Sidebottom. Thank you, for your

time, and the support in safety.

Thane M. Withrow, Underground Foreman & Safety Coordinator, Hutchinson Salt Co., Hutchinson, KS

Submitted by Lee Graham, Coordinator, Kansas Small Mine Safety Training

Safety tips that could save your life and/or property

The most frequent area of origin in home fires is the kitchen or cooking area, and the most frequent time for fires to occur is during the dinner hour, between 4:00 to 6:00 p.m. Unattended cooking and cooking appliances were the most frequent ignition factors found in residential fires. The following tips are provided in case you ever have to deal with a cooking emergency:

1. If a pan catches fire with grease or food in it, cover the pan with a lid and turn off the burner.
2. Cool a burn by running cool water over the area. If a burn is charred or red and blistered, get medical assistance immediately.
3. Turn pot handles inward while cooking on the top of the stove so children can't reach or pull them down.
4. Oven fire—close the oven door and turn off the stove.
5. Microwave fire—keep the door closed and turn off the switch.

• **Stay with your cooking!**

• **Hot ashes**—Never discard hot ashes inside or near your home. Place them in a metal container

outside and well away from the home.

• **Fireplace**—Before you go to sleep be sure your fireplace fire is out. **NEVER** close your damper with hot ashes in the fireplace. A closed damper will help the fire to heat up again and will force toxic carbon monoxide into the house.

• **Stove oven**—Never use a range or oven as a supplementary heating device. Not only is it a safety hazard, it can be a source of potentially toxic fumes.

• A jelly filled pastry, heated in a microwave oven can be cool to the touch, yet have an internal temperature that is: **equal to boiling.**

• **The most important part of a home fire safety plan is:** a second exit out of every room.

• **The best first aid treatment for a burn is:** cool water.

• **If your clothes catch on fire you should:** If you are able, stop, drop and roll the flames out. If you cannot stop, drop and roll, wrap up in a wool blanket or a rug.

• **Which type of heater does not need a way to allow fumes to escape?** electric.

• **Frozen water pipes?** Never try to thaw them with a blow torch or other open flame (otherwise the pipe could conduct the heat and ignite the wall structure inside the wall space). Use hot water or a UL labeled device such as a hand held dryer for thawing.

• When an **emergency vehicle** is approaching your vehicle, pull to the nearest curb and stop. The curb may be to the right or left on a divided road.

• **Wet Leaves:** With wet leaves on the ground, our streets and sidewalks become extremely slippery. Please be careful when walking and driving on wet foliage.

• **Working smoke detector**—Be sure your home has a working smoke detector on every level and outside of every sleeping area. Check and clean your detectors once a month.

Reprinted from the December 1995, Volume 7, Number 4, edition of Safetyline Signals—Maryland's Montgomery County volunteer fire-rescue association and auxiliary fire and injury prevention committee.

Smoke detectors for deaf and hard of hearing people

The ultimate value of a smoke detector is to awaken you or alert you if there is smoke in your home. If you cannot hear a regular smoke detector, please provide yourself the protection that hearing people have by investing in a smoke alarm that

has been approved by your state Fire Marshal. If you refer to the "fire services special program for deaf and hard of hearing people," local dealers that sell devices for deaf people sell a smoke detector for less than \$100. The listed cost is \$148. Many fire jurisdictions

have programs to provide smoke detectors for the indigent. Check with your local fire department if you need a detector, but cannot afford it, and every effort will be made to get one for you.

Gun safety in the home

There are over 1,500 gun accidents caused by improper use of guns annually. Almost 75% of them occur in the home by children under the age of 15 years. The most alarming of all is the fact that most gun owners do not know how to store a weapon safely out of the reach of children. Thus causing the child to find and then explore the new "toy."

Guns should always be stored unloaded and away from ammunition and should never be kept in an area where children can reach either one. All guns in homes with children must be stored in a locked container or other secure place, or with a trigger lock.

Maryland is one of the thirteen states that has passed child accident prevention (CAP) laws, which, in varying degrees, make it a crime to leave a loaded firearm within reach of a minor. Parents who keep guns in their home are breaking the law if their guns are stored loaded.

The intent of CAP laws is to

save lives by making adults aware of their responsibilities for owning a firearm. Unfortunately, these laws alone will not reduce the rising [number of] fatalities among children.

Accidental firearm fatalities involving children most frequently occur in a bedroom.

Every weapon should be assumed loaded. They should be pointed in a safe direction at all times.

The safest weapons are kept under lock and key. Youngsters need to be taught about the basic principles of firearm safety, whether a weapon is kept in the home or not.

When a child encounters a gun, he/she should know not to touch it, leave the room immediately and go tell an adult what he/she found.

Atlanta-based Firearm Safety Products, Inc., responded to this challenge with the creation of two gun safety products—Trigger Alarm and Trigger Shield. Both of

them have a clamshell-like design that covers the entire trigger area of most weapons, making them unfireable to children.

Talk to friends and relatives whom you visit and find out if they own a firearm and if they do, find out how they are stored.

Talk to your children about gun safety—try to dispel any misconceptions. Explain to them that a gun can accidentally kill them or someone else.

Find out if your school has instituted a gun violence prevention program such as Straight Talk About Risks, available from the Center to: Prevent Handgun Violence, 1225 Eye St. NW, Suite 1100, Washington, D.C. 20005.

Information provided by FF/RII G. Allan Smith of the Germantown, Maryland Volunteer Fire Department.

Reprinted from the Volume 7, Number 4, December 1995 issue of Safetyline Signals. This publication is the official publication of Maryland's Montgomery County Volunteer Fire-Rescue Association and auxiliary fire and injury prevention committee.

Can you put away your glasses?

Imagine life without glasses or contact lenses to drive your car, enjoy a movie or watch your daughter's piano recital.

If you have poor distance vision, you are nearsighted, along with 60 million other people in the United States. Nearsightedness, or myopia, is a focusing problem caused by a geometric abnormality of the eye. Your vision is blurred if your cornea, lens and eye length combine to place an image you see in front of the retina, instead of precisely on the retina.

New developments in eye

surgery are designed to reduce the dependence on glasses and contacts for nearsightedness. You've probably never heard of RK (radial keratotomy) and PRK (photorefractive keratectomy computerized laser surgery). Both techniques are intended to reshape the eye so that light rays fall directly on the retina.

- In RK, a surgeon makes a number of cuts in the cornea of the eye using a diamond knife. This procedure, developed in 1974, did not have to undergo approval by any governmental or medical authority because it is performed

without special devices. RK can be done in a doctor's office under local anesthesia.

- In PRK, a laser delivering pulses of ultraviolet light removes thin layers from the surface of the cornea. Georgetown University Medical Center is one of the original 20 sites in the United States participating in studies to determine the safety and effectiveness of the excimer laser in research trials.

Like all medical procedures, each technique has risks to some people.

- In RK, although vision

generally improves quickly, the quality of vision may tend to fluctuate during the day. Some eyes remain myopic; others may become increasingly farsighted, requiring glasses for reading and close work. Other possible side effects include a starburst or halo effect around the eye and glare, especially at night. The surgery may weaken the eye and make it more susceptible to rupture under force.

• In PRK, vision may improve in 1 to 2 weeks and continue to

improve over 3 to 6 months. Some people have hazy vision permanently. Still others may experience additional side effects.

RK costs about \$1,500 per eye, and PRK about \$2,000 per eye. Refractive surgery is not covered by most private insurance programs or by Medicare. The federal Food and Drug Administration recently gave final commercial approval for the use of the excimer to correct nearsightedness. "The excimer is an exciting alternative in the treatment of

nearsightedness," says Jay Lustbader, MD, director of Georgetown's Refractive Surgical Center. The excimer laser is located at Georgetown University Medical Center at Ballston in Arlington, Virginia.

Reprinted from the Fall 1995 edition of Washington, DC's Georgetown University Medical Center's Healthy Decisions.

Wylo Mine reaches safety milestone

Mining coal safely and efficiently, as always, is the #1 goal at Arch of West Virginia's Wylo Mine. In an industry where accidents and

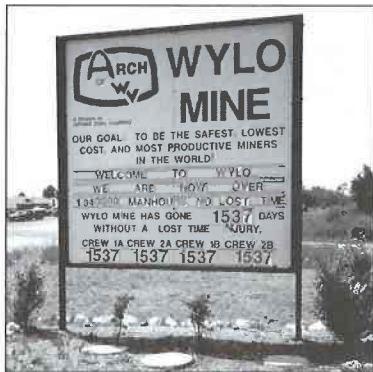
million employee-hours without a lost-time injury. **RECORD PERFORMANCE FOR THE WEST VIRGINIA MINING INDUSTRY.** Truly an accomplishment worthy of praise!

Employees of Wylo Mine truly exemplify the expression: "Safety is no accident". They believe that injuries can be prevented by practicing established Safe Job Procedures. By utilizing programs such as "Operation Elimination / Unsafe Acts", safe work habits have become second nature to them.

In addition to going over 4 years and one million employee-hours without a lost time injury, Wylo employees have received numerous other safety awards. Some of the most notable are:

- Recognized as finalist in Sentinels of Safety Program for 1992, 1993 and 1994.
- Recipient of Arch Mineral Corporation *President's Safety Award* for 1992 and 1994 as being the Corporation's safest surface mine.
- Recipient of the 1993 *Barton B. Lay, Jr. Milestones of Safety*

Left, the first indication of Wylo's commitment to safety is the sign along highway advertising the mine's accomplishments. Below right, a Michigan 275C is loading coal at the Ridgeline Mine.



injuries are often accepted as the rule, rather than the exception, the employees of Wylo have taken exception to that rule! The Wylo Mine employees recently completed 4 years without a lost time injury on May 17, 1995. This is a very significant achievement, when you consider that the Wylo Mine has 167 employees working on or around heavy equipment in all types of weather conditions. The Wylo employees continue to work and have gone over one





Guardian Award at the 1995 West Virginia Mining Symposium for operating since 1972 and producing over 13.7 million tons of coal without a fatal injury.

While these safety accomplishments are very impressive, they remind us of one thing: we must **not** become "complacent" or "satisfied" with our safety performance. We must be ever more vigilant and aware of just how easily someone can be hurt. Always watching out for ourselves and those who work with us. Remember: safety records are nothing more than men and women working safely, every second of every day. We would like to congratulate all Wylo employees on reaching these very significant safety milestones.

Ernest Marcum, Manager of Safety, Arch of West Virginia's Wylo Mine.

Upper left, a P & H 4100 shovel loads a rock truck at the Wylo Mine. Middle, examples of land reclaimed by Arch after strip mining. Note the rip-rap lining in the drainage ditch in the lower photo.



Award for being the most outstanding mining operation within the state of West Virginia in the area of safety.

- Recognized by the West Virginia Holmes Safety Association as the state's safest large surface mine for the last 3 years (1992, 1993, and 1994).
- Received MSHA's District 4 *Pacesetter Award* for 1992, 1993, and 1994 for having the lowest total injury incident rate.
- Received *Mountaineer*



Deciding about food

• When you're trying to lose a little weight, have a filling cup of soup before dinner. Regular soup eaters lose weight and keep it off.

• **Fiber in your soup?** You bet. Choose soups made with black, white, or navy **beans, peas, or lentils**. Many contain as much as 9 grams of fiber per serving.

• If you make your own soup with **canned beans**, rinse the beans with water several times before you use them. You'll cut the **sodium** content by 40%.

China coalbed methane industry eyes foreign funds

By Benjamin Kang Lim

BEIJING, Oct. 17—China, the world's largest producer and consumer of coal, wants foreign investment and technology to develop and use coalbed methane to cut pollution and mining accidents, Chinese officials said.

"We... hope advanced technology and management expertise will be introduced to China to promote the development of the coalbed methane industry," Vice Minister of Coal Industry Zhang Baoming told a conference in Beijing.

About 120 Chinese officials and experts and an equal number of foreigners from major international oil and gas companies and organizations are attending the conference.

The U.N.-sponsored, four-day conference is to discuss the potential for foreign investment to develop methane gas resources in China.

Chen Minghe, a chief engineer with the ministry, said China would seek additional foreign

funds under more open policies. He did not elaborate.

By the end of 1994, \$ 3.76 billion of foreign cash had been invested in the industry.

China is rich in coalbed methane, with estimated reserves of up to 35 trillion cubic meters to a depth of 2,000 meters (6,562 ft), government statistics show.

Just 560 million cubic meters was drained from coal mines in 1994.

Drainage of coalbed methane averts the possibility of fires at mines and reduces emissions of gas pollutants, Chen said.

"Coalbed methane will no doubt develop rapidly because it will create a new clean energy, reduce pollution, and improve mining safety," Chen said.

Mine explosions, collapses, and other accidents kill up to 10,000 miners across China each year.

China has ordered stricter enforcement of a widely ignored safety law and better supervision at major state mines and thou-

sands of small township mines, many of which operate illegally, without safety measures.

China is one of the largest sources of methane emissions from coal mining. The United Nations Development Program estimates that it releases 10 metric tons of the pollutant each year.

It said total national greenhouse gas emissions account for about 10 percent of global emissions.

Vice-minister Zhang said China's energy mix, with coal as the mainstay, would remain unchanged over the next 10 years.

He predicted coal production would climb to about 1.45 billion tons by the year 2000.

China produced 1.21 billion tons of coal in 1994.

*Copyright 1995 Reuters Limited
The Reuter Asia-Pacific Business Report*

How to help a homesick friend of any age

There is no shame in being homesick but people, both kids and adults, may deny it or admit it with embarrassment. They are often encouraged to hide their feelings, to just "snap out of it." This is not helpful. What helps is to be straightforward—to say, "yes, you are homesick and that's okay." Tender, loving care and just the right amount of attention—not too little, but not too much—work wonders.

So does getting busy. Urge children in your care or homesick adults to join in the fun of the new location. Show them the ropes—one aspect of homesickness is fear of the unknown.

Invite them to talk about what they are feeling, and listen with a sympathetic ear. One of the reasons people remember homesickness with so much pain may be that they never had a chance to talk about it and resolve it at

the time it happened.

And, listen to the reminiscences of the older people in your life. They're afraid of the unknown too, and their nostalgia for the past is a lot like being homesick. Remember?

Reprinted from the Winter 1995 edition of Washington, DC's Georgetown University Medical Center's Healthy Decisions.

Can you boost your own immune system?

Most people have an innate ability to resist illness. Your best defense against harmful bacteria, viruses, allergens, parasites, toxins and tumors is your immune system.

The immune system includes the skin (which serves as a barrier to infection), the thymus, spleen, and other organs, and the cells they manufacture. It responds to foreign substances by identifying the invaders and activating the cells to destroy them.

"One of the best ways to prevent disease and maintain your health is to boost your immune system, says Joseph A. Bellanti, MD, director of Georgetown's International Immunology Center. "Start by adopting a healthy attitude in your daily activities."

How to strengthen your defenses

- **Nutrition.** Deficiencies in essential vitamins, such as A, C, and E, and in zinc or iron can hamper the immune system, particularly in older people. So can taking too much of them. Moderation is the key—eat a well-balanced diet that includes plenty of fruits and vegetables and only modest amounts of fat. If your diet is poor, take supplements according to the U.S. Recommended Daily Allowances.

- **Exercise.** Moderate exercise appears to stimulate the immune system and reduce the threat of many illnesses. But studies show that intense and stressful exercise may be harmful. Work out on a regular basis but avoid single

bouts of exhausting physical activity or chronic overtraining.

- **Weight Control.** Infectious illnesses are more common and more severe in people who are obese. Despite the obvious health benefits of weight loss, studies warn that a very low-calorie diet lasting several weeks or more may damage the immune system.

- **Stress.** Anxiety, tension and stressful life events are associated with immune function changes that may make it easier to get sick. A positive mental attitude, a strong social support system, and a good night's sleep appear to replenish the immune system.

Reprinted from the Winter 1995 edition of Washington, DC's GEORGETOWN UNIVERSITY MEDICAL CENTER's Healthy Decisions.

New medical technology...

A better brace for knee rehab has been patented by Marshall Space Flight Center. Unlike conventional knee braces, this model is not limited to locking in the straight leg position, being able to lock at any bend angle. It also allows the knee to bear weight and locks only when the foot and lower leg are bearing weight. Thus the brace can prevent flexion if the wearer desires. At other times, the knee can be bent freely to exercise knee-related muscles. The device is strapped at the upper end to the leg above the knee and anchored at the lower end by a stirrup under the foot. Right and left assemblies contain identical joint mechanisms but are oriented slightly differently to accommodate the configuration of the knee. The

invention has been made available for commercial license.

Your complete medical history in your pocket may be closer than you think. Columbia/HCA Healthcare, the world's largest private operator of hospitals and surgery centers, is issuing Mountain View, Calif.-based Drexler Technology's wallet-sized LaserCard optical memory cards containing personal, computerized medical records to 50,000 Floridians. A field trial is underway in Florida. The LaserCard will speed hospital admissions, expedite emergency treatment and facilitate prompt and accurate diagnoses by providing timely and comprehensive medical data to attending physicians. The cards are readable only with special equipment and

software, ensuring patient privacy and confidentiality.

Reprinted from the January 10, 1996 edition of Industry.Net Report.

A candy bar that lowers your cholesterol is being developed by researchers at the University of Massachusetts. In findings presented at the American Heart Association's recent annual scientific meeting, the researchers reported that the chocolate- and raspberry-flavored bars—produced at Ross-Abbott Labs in Columbus, Ohio—have been shown to lower cholesterol levels of participants in a volunteer test group.

Reprinted from the December 20, 1995 edition of Industry.Net Report.

Comfort (but no cure) for the common cold

Pity the poor scientists searching for a cure for the common cold. With more than 200 viruses known to cause colds, their job is a little like looking for 200 four-leaf clovers in a field of alfalfa.

While the cure is still elusive, research has come up with several useful findings that may help to ease a cold, or possibly prevent one in the first place: A review of over-the-counter cold medications says they're not effective in children and may have undesirable side effects. Over-the-counter combination drugs may give some relief to adults and adolescents. Most contain an antihistamine, an oral decongestant and an analgesic.

- Single-symptom medicines also ease cold miseries and they're less expensive than combination drugs. Nasal decongestants are quite effective and analgesics, including naproxen, may reduce the headache, weakness and muscle pain of a cold. At the start of a cold, *expectorant* cough medicines to break up

phlegm may be helpful—a “wet” cough serves the useful purpose of bringing up and getting rid of unwanted mucous. The best cough *suppressant* for a “dry” cough that tickles the throat after the worst of the cold is over is one that contains dextromethorphan. It's non-narcotic and it's available over-the-counter. Studies of zinc gluconate tablets for colds are inconclusive. Some show that sucking a lozenge containing 23 mg. of zinc gluconate every 2 hours shortens the course of a cold—others find it has no effect at all. Newly developed lozenges have a more agreeable taste than the bitter tablets of the past.

- Some clinical trials find that Vitamin C can reduce the symptoms, if not the incidence, of colds. High doses of Vitamin C are not thought to be harmful to adults because Vitamin C is water-soluble, so the body easily rids itself of any excess. Children, however, should not be given more than the 60 mg. Recommended Daily Allowance,

since too much Vitamin C may upset their stomachs.

- Two recent studies find that nasal steam inhalation does not provide any lasting relief from a cold nor shorten the length of the cold.

- High levels of psychological stress can nearly double the odds of catching a cold. It is thought that stress affects the immune system and lowers the body's ability to fight off a cold virus.

- The fastest way to catch a cold? Hand-to-hand contact with people who already have one, or with objects they have touched within the last few hours. Colds can also be transmitted by inhaling particles that circulate in the air after someone with a cold has sneezed or coughed. The least efficient way to catch a cold is through kissing. The mucous membranes of the lips and mouth seem to have some resistance to cold viruses.

The best way *not* to catch a cold? Wash your hands, wash your hands, wash your hands.

Winter coughs: what to do and when to worry

Forget the sleigh bells and herald angels. The more familiar sounds of winter are a sneeze, a snuffle, and a chorus of coughs.

Coughing is a reflex action designed to clear the airways of irritation or blockage. A cough can be a simple reaction to annoying dust and smoke or a life-saving response against choking. In this season, it's most likely a sign of a cold.

Colds and coughing

The cough of a cold is usually caused by postnasal drip from a runny nose. Coughing brings up and gets rid of unwanted mucus. This productive or “wet” coughing is the body's defense against blocked air passages. Medicine to suppress a

“wet” cough defeats the purpose and isn't advised.

According to recent studies cough medicines that claim to break up phlegm and ease coughing are not very effective, particularly for children.

Decongestants do shrink swollen nasal tissues and lessen postnasal drip and coughing. But their use should be limited since they often have a “rebound effect” that leaves the nose as stuffy as ever after the drugs are discontinued.

A cold lasts about a week but a “dry” cough that produces no phlegm can continue to irritate the throat. Now is the time for a cough suppressant. Look for one containing dextromethorphan—a non-narcotic cough medicine that is sold

over the counter. If that doesn't work codeine probably will. It's available with a doctor's prescription.

Don't ignore a nagging cough

It's dangerous to assume that all coughs are due to colds and it's unwise to ignore a chronic cough on the basis that it's leftover from the flu. The cough that won't quit could be a sign of something more serious and should be checked by a physician.

Reprinted from the Winter 1995 edition of Washington, DC's Georgetown University Medical Center's Healthy Decisions.

Everything you need to know about hernias

What exactly is a hernia? Is it the same as a rupture?

Rupture is a common name for hernia. Hernias happen when a body organ or tissue protrudes through a weakness or a hole in the muscle which normally contains it. They most commonly occur in the abdominal wall and the organ that protrudes is usually the stomach or the small intestine.

Are there different kinds of hernias?

Hernias can form in many areas—some of the more familiar ones are:

- the groin (inguinal or femoral)
- the navel (umbilical)
- the breastbone (epigastric)
- near an existing surgical scar (incisional). In hiatal hernia, the stomach projects through the diaphragm into the chest—see the box below.

Who gets hernias?

People of both sexes and all ages get hernias. They frequently appear in middle age and the most common types are inguinal

and umbilical hernias. About 2% of all adult males in the U.S. suffer from inguinal hernias, when the intestine bulges into the scrotum through the inguinal canal. Women get them too—in women, the intestine bulges into the canal itself. Nor are babies spared. Umbilical hernias are quite common and approximately 2% of infants, mostly boys, are born with inguinal hernia, sometimes on both sides.

What causes them?

Heredity plays a part, particularly in men. Abdominal hernias are usually caused by an inherent weakness in the abdominal wall that is present at birth. The hernia may not appear until the person is older and the abdominal muscles are weaker. Hernias also become evident after muscle damage due to heavy lifting, straining, coughing, pregnancy or a substantial weight gain. Hernias caused by an injury to the abdomen are rare.

What are the symptoms?

The first sign of a hernia is usually a bulge in the abdominal

wall. Sometimes the protruding organ can be pushed back into place. There may be discomfort or even severe pain, particularly if the intestine becomes trapped and can't slide back into place. When the blood supply is cut off to a twisted intestine, it is known as a strangulated hernia. This condition can lead to gangrene and requires immediate attention.

How are hernias treated?

Medication and changes in eating habits are the treatments of choice for hiatal hernia. Umbilical hernias in newborns often heal themselves. Other hernias that don't cause symptoms may not need treatment. Trusses are sometimes prescribed temporarily, but if the hernia enlarges, which most do, surgery may be the only answer. Recovery is rapid and there is less pain with new surgical techniques, but it's not unusual for some types of hernia to reoccur.

Reprinted from the Winter 1995 edition of Washington, DC's GEORGETOWN UNIVERSITY MEDICAL CENTER's Healthy Decisions.

Heartburn? It may mean hiatal hernia

The opening of a hiatal hernia is in the diaphragm—the muscle layer that separates the chest from the abdomen. Many people have no symptoms, but in some cases the hernia causes stomach acids to back up into the esophagus. The unpleasant and often painful result is heartburn.

Both prescription medica-

tions and over the counter drugs are used to relieve heartburn. A change of eating habits and other behaviors are also usually suggested:

- Eat small meals.
- Eat them slowly.
- Let food digest before lying down.
- Avoid citrus fruits and other acidic foods.

- Cut down on caffeine, alcohol and smoking.
- Prop up head and chest while sleeping.

If you suffer from heartburn, your doctor may order tests to see if a hiatal hernia is the culprit. If it is and medical treatment doesn't bring relief, surgery may be in order.

THE LAST WORD...

The real measure of your character is what you would do if you knew you would never get caught.

You will always find the time to do the things you want to do.

Stress is always caused by doing things you shouldn't do and/or by not doing things you know you should do.

You can observe a lot by just watching.—Yogi Berra

Nothing is like it seems, but everything is exactly like it is.—Yogi Berra

Ninety-five percent of this game is half mental.—Yogi Berra

All right everyone, line up alphabetically according to your height.—Casey Stengel

Even if you're on the right track, you'll get run over if you just sit there.—Will Rogers

Never eat more than you can lift.—Miss Piggy

I have not failed. I've just found 10,000 ways that won't work.—Thomas Edison

NOTICE: We welcome any materials that you submit to the Holmes Safety Association Bulletin. **We DESPERATELY need color photographs suitable for use on the front cover of the Bulletin.** 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.

Because of the recent federal shutdown, we did not publish the January issue of the Bulletin. We regret any inconvenience.

REMINDER: The District Council Safety Competition for 1996 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

Please address all editorial comments to the editor, Fred Bigio, at the above address. Phone: (703) 235-1400



Joseph A. Holmes Safety Association Awards Criteria

Type "A" Award – For Acts of Heroism

The award is a medal with a Medal of Honor Certificate.

Type "A" Award – For Acts of Heroic Assistance

The award is a Certificate of Honor.

Type B-1 Award – For Individual Workers

(40 years continuous work experience without injury that resulted in lost workdays)

The award is a Certificate of Honor, a Gold Pin, and a Gold Decal.

Type B-2 Award – For Individual Officials

(For record of the group working under their supervision)

The award is a Certificate of Honor.

Type C Award – For Safety Records

(For all segments of the mineral extractive industries meeting adopted criteria)

The award is a Certificate of Honor.

Other Awards – For Individual Workers

(For 10, 20, or 30 years without injury resulting in lost workdays)

The awards are 30 years–Silver Pin and Decal, 20 years–Bronze Pin and Decal, 10 years–Decal bearing insignia.

Special Award – For Small Operators

(Mine operators with 25 employees or less with outstanding safety records)

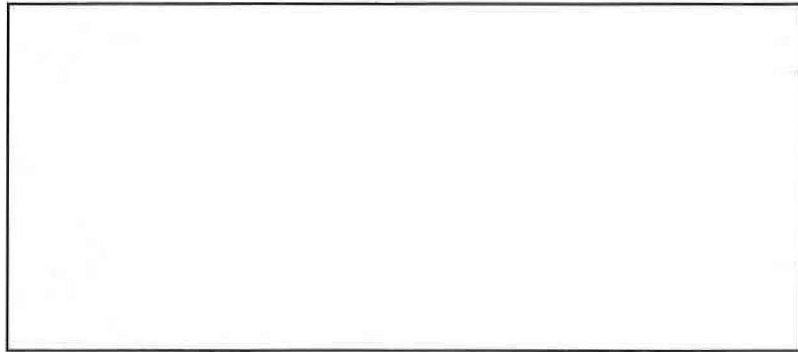
The award is a Certificate of Honor.

For information contact: Secretary-Treasurer

Joseph A. Holmes Safety Association (703) 235-8264

U.S. Department of Labor
MSHA, Holmes Safety Association
P.O. Box 4187
Falls Church, VA 22044-0187

BULK RATE
POSTAGE & FEES PAID
DOL
PERMIT NO. G-59



JOIN and GROW with us

Mark your calendar
NOW!



Coming events:

- *Feb. 13-14, Annual Arkansas Mine Safety & Health Conference, Lake Hamilton Resort, Hot Springs, AR*
- *Mar. 13-14, 14th Annual Joint Mine Health & Safety Conference, Westin Crown Center, Kansas City, MO*
- *Mar. 14, Northeast Metal/Nonmetal Workshop, Sponsored by: MSHA, HSA, NY Dept. of Labor, Pittsfield, MA*
- *Mar. 27-29, HSA Executive Committee Meeting, Hyatt Regency, San Francisco, CA*
- *Mar. 28-29, Western PA Safety Council, 71st Annual Safety, Health & Security Conference & Exhibit, Expo Mart, Monroeville, PA*