

THE HOLMES SAFETY ASSOCIATION

BULLETIN

MARCH/APRIL 2000





CONTENTS:

“Mark the Power Line”.....	3
“Back it up and close the gap!”.....	5
Choose the Hearing Protection That’s Right for You.....	6
“Can’t Find Your Blocks? — Use Safety Props”.....	8
Mine Operators May Now File Over the Web.....	9
MSHA Solicits Comments on Equipment Guarding Guide.....	10
Directorate of Technical Support Accident Reduction Program.....	11
More U.S. Coal Miners Now Eligible for Free Chest X-rays to Detect Lung Disease.....	12
Wellness.....	14
The Miner’s Angel.....	16
Miner’s Lunch Bucket.....	20
Poem: The Miner.....	21
What’s happening at the National Mine Health and Safety Academy.....	22
Mining Our History.....	23
Joseph A. Holmes Safety Association 2000 National Meeting.....	24
Registration Form.....	25
Words to think about.....	26

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.

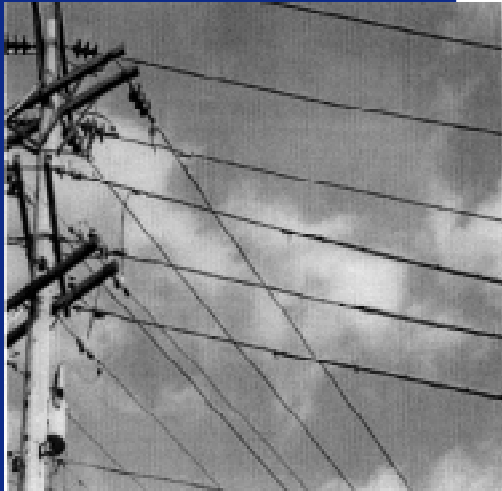
PLEASE NOTE: The views and conclusions expressed in Bulletin articles are those of the authors and should not be interpreted as representing official policy or, in the case of a product, represent endorsement by the Mine Safety and Health Administration.

Cover: Photos and cover design provided by the AVMDB Staff Visual Information Specialist. If you have a potential cover photo, please send an 8”x10” print, or you can put the image on a computer disk at 300 resolution, JPED or TIFF file formats to Donald Starr, Holmes Safety Association Bulletin, National Mine Health and Safety Academy, 1301 Airport Road, Beaver, WV 25813-9426.

Corrections: February 2000 Issue: Table of Contents; line thirteen; Joseph A. Holmes Safety Association Scholarship Program, should read Joseph A. Holmes Safety Association 2000 National Meeting. Page 3, New MSHA “Part 46 Training” article; last column, first and second line should read: Linda Herbst, MSHA, Training Specialist. We’re sorry for any inconvenience these errors may have caused.

KEEP US IN CIRCULATION--PASS US ALONG

“Mark the Power Line”



Overhead high-voltage conductors or “lines” are usually bare wires supported by poles or structures, traversing across mine property. A danger exists to personnel when mobile equipment, such as trucks, drill rigs, cranes, etc. contact these lines. Based on accident data recorded by MSHA from 1980 to 1997, there have been 106 accidents that have involved overhead lines. Of these 106 accidents 32 resulted in fatalities. A typical accident occurred at a crushed stone mine in New Jersey. (Fatal #43 08/08/1997.)

Overhead lines near the following sites and activities can present a **serious** hazard:

- Storage yards and delivery areas (where cranes

may operate).

- Mobile equipment maintenance, parking, and fueling areas.

- Haulage and access roads, particularly those near dump/load points, and pull-off areas on these roads (dump-bed trucks running with beds up, cleaning beds, and raising tarps).

- Stockpiles, dumping points, loading areas, and truck scales (raising truck beds).

- Mining benches and active pit areas in general, particularly near blasthole drilling operations.

- Adjacent to mine plant structures, such as processing plants, slopes/hoists, belt lines, transfer points, settling ponds, and waste dumps (cranes and dump-bed trucks used in routine maintenance).

- Exploration/test drilling sites. Construction sites, particularly if cranes or scaffolds are in use. Unintentional buildup of roadways under overhead lines. Solution: There are several ways to avoid accidental overhead electric power line contacts and resulting injuries:

- Recognize potential hazards. Train workers to “look up” prior to starting work.

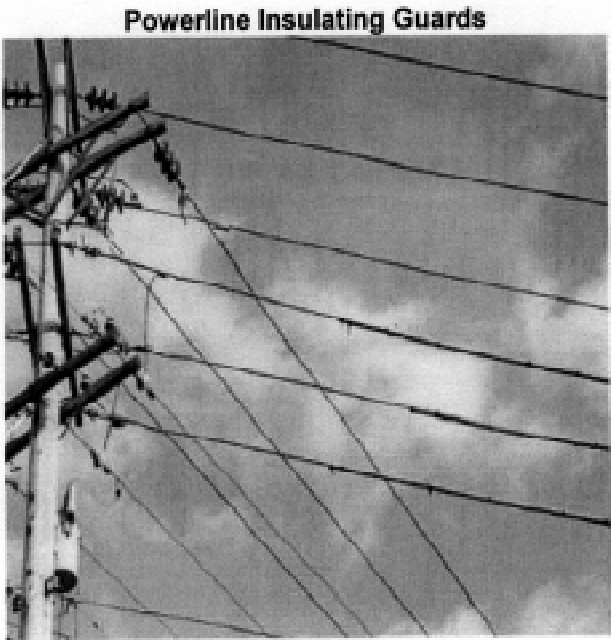
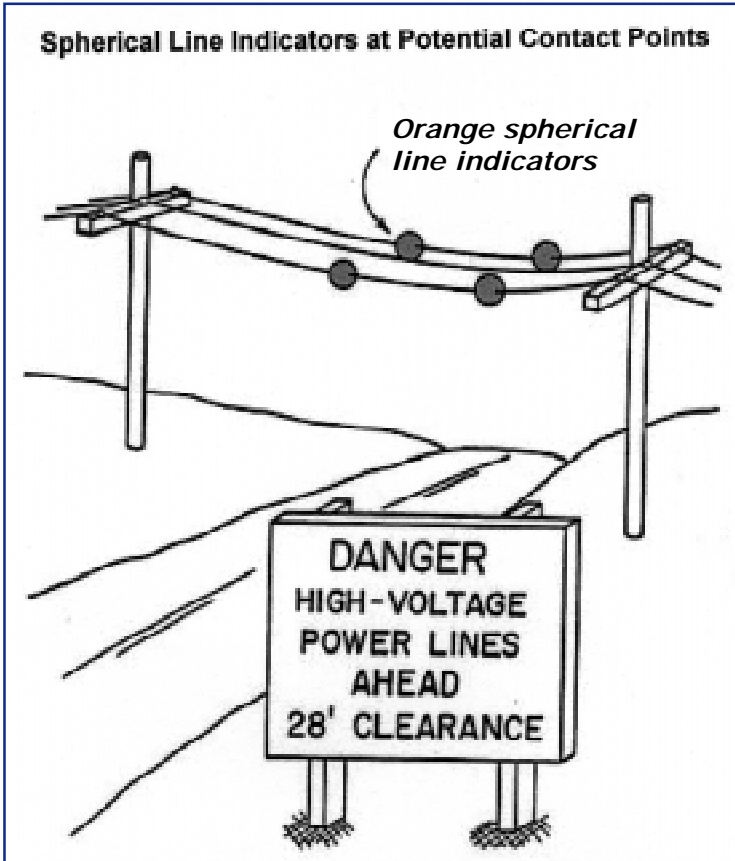
- Install physical barriers under overhead lines.

- Erect signs to identify a danger zone. Raise problem sections of overhead line to at least 40 ft. above ground.

- Have the electric power utility company install insulating barriers or sleeve conductors where equipment must operate.

- Have high visibility spheres installed on energized lines to help make the line location obvious to all workers. Have the electric power utility company temporarily de-energize the power lines.

(See next page)



Precautions

*This article is from the MSHA web site:
<http://www.msha.gov/techsupp/arp/remedies/wire.htm>*

“Back it up and close the gap!”

While talking with co-workers a young coal miner was positioned between the rear of a manbus and the corner of a coal pillar. There was approximately two feet of clearance between the machine and the rib. At the same time and on the other side of a check curtain, which was located immediately in front of the manbus, a scoop operator was tramming slowly and maneuvering the scoop from left-to-right so it would not tear down the curtain while sounding the warning bell. The scoop operator, who could not see the manbus on the other side of the check curtain, felt a “bump” when his deck cleared the curtain. The “bump” occurred when the corner of his bucket struck a front corner of the manbus on the opposite side of the curtain. The manbus moved back approximately two feet — far enough to ram it up against the rib and fatally crush the electrician-trainee in his chest area.

MSHA recommends the following to eliminate a pinch point space around mobile equipment.

☞ First, all machinery and

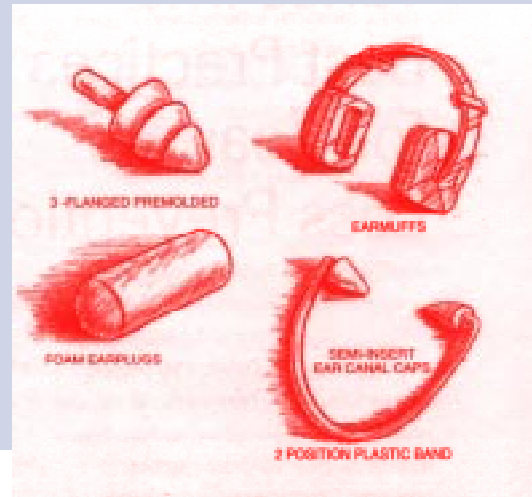
vehicles should be backed up and located flush against the ribs, walls, and other similar deadend-type areas. This automatically eliminates pinch points and any access for workers to get behind equipment.

☞ Second, when possible, equipment should be parked a sufficient distance away from any curtains to allow operations to continue on the other side of a curtain without concern for contact or collision with any unseen items.

☞ Third, when parking any vehicles in a line, such as on a rail line or trucks on the surface, it is important to ensure that gaps do not exist between the front and the rear of vehicles. This procedure eliminates all pinch points if the parked vehicles are accidentally bumped by other equipment. ■



Choose the Hearing Protection That's Right for You



Confused about the right type of hearing protection for your employee? There are several main types of hearing protectors, and each type requires a slightly different fitting technique. NIOSH recommends that hearing protectors, like respirators, should be personally fit to each employee.

Expandable foam plugs

These plugs are made of a formable material designed to expand and conform to the shape of each person's ear canal. They are available in a variety of colors and shapes, and come with or without attached cords. Many are designed to be worn once, then thrown out. Roll the expandable plugs into a thin, crease-free cylinder. Whether you roll plugs with thumb and fingers or across your palm doesn't matter. What's critical is the final result— a smooth tube

thin enough so that about half the length will fit easily into your ear canal. Some individuals, especially women with small ear canals, have difficulty rolling typical plugs small enough to make them fit. A few manufacturers now offer a small size expandable plug.

Pre-molded, reusable plugs

Pre-molded plugs are made from silicone, plastic, or rubber and are manufactured as either "one-size-fits-most" or are available in several sizes. Workers sometimes refer to these plugs as "Christmas tree plugs" because of their appearance. Many pre-molded plugs are available in sizes for small, medium, or large ear canals. They often come with a carrying case to keep them clean when you're not wearing them.

A critical tip about pre-molded plugs is that a person may need a different size plug for each ear. The plugs should seal the ear canal without being uncomfortable. This takes trial

and error of the various sizes. Directions for fitting each model of pre-molded plugs may differ slightly depending on how many flanges they have and how the tip is shaped. Insert this type of plug by reaching over your head with one hand to pull up on your ear. Then use your other hand to insert the plug with a gentle rocking motion until you have sealed the ear canal. To remove the plugs, twist them while gently pulling them out. Yanking them out may hurt. Advantages of pre-molded plugs are that they are relatively inexpensive, reusable, washable, convenient to carry, and come in a variety of sizes. Nearly everyone can find a plug that will be comfortable and effective. (Just remember, these plugs need to be individually fit to ensure that workers use the correct size.) In dirty or dusty environments, an added plus for pre-molded plugs is that you don't need to handle or roll the tips. You can easily insert a clean plug even

though your hands aren't squeaky clean.

Canal caps

Canal caps often resemble earplugs on a flexible plastic or metal band. The earplug tips of a canal cap may be a formable or pre-molded material. Some have headbands that can be worn over the head, behind the neck, or under the chin. Others have headbands that can be worn in only one or two positions. Newer models have jointed bands that increase the ability to properly seal the earplug and add to the comfort of the devices.

The main advantage canal caps offer is convenience. They are especially useful in environments where the noise is on and off. When it's quiet, employees can leave the band hanging around their necks. They can quickly insert the plug tips when hazardous noise starts again. While many employees like canal caps, some people find the pressure from the bands uncomfortable. Not all canal caps have tips that adequately block all types of noise. Generally, the canal cap tips that resemble stand-alone earplugs seem to block the most noise. But as with all hearing protectors, effectiveness will vary from person to person.

Earmuffs

Earmuffs come in many models designed to fit most people. They work to block out noise by completely covering the outer ear. Muffs can be

"low profile" with small ear cups or large to hold extra materials for use in extreme noise. Some muffs also include electronic components to help users communicate or to block impulsive noises, such as gunfire.

Workers who have heavy beards or sideburns or who wear glasses may find it difficult to get good protection from earmuffs. The hair and the temples of the glasses break the seal that the earmuff cushions make around the ear. You only need a tiny opening for noise to leak into the muff. Some people with very angular faces also have difficulty getting a good seal around their ears with earmuffs. For these workers, earplugs are best. Other potential drawbacks of earmuffs are that some people feel they can be hot, heavy, and cumbersome in some environments. It depends on personal likes and dislikes.

It's a good idea to tell your employees that audio headphones don't make good earmuffs. Neither do Walkman™ type headphones or ear buttons. These devices deliver sound but don't block it out! However, there are several very good noise-blocking earmuffs with FM radios built into the ear cups. These muffs have volume limiters so users can't damage their ears by turning the volume too loud. Although these devices are more expensive than muffs without radios, workers who appreciate the

opportunity to listen to music or sports while working have readily accepted them.

Miscellaneous devices

Manufacturers are receptive to comments from hearing protection users. This has led to the development of new devices that are hybrids of the traditional types of hearing protectors. Because many people like the comfort of foam plugs, but don't want to roll them in dirty environments, a plug is now available that is essentially a foam tip on a stem. You insert this plug much like a pre-molded plug without rolling the foam.

Scientists are developing earmuffs using high-tech materials to reduce weight and bulk, but that still effectively block noise. On the horizon may be earplugs with built-in two-way communication capability.

Still, the best hearing protector for your employees will be the one they are willing to wear consistently every time they are in hazardous noise. Comfort and convenience will weigh in heavily for each worker. To meet their needs, offer four or five types of plugs, a canal cap or two, and several kinds of muffs. ♦

Article taken from the publication: Today's Supervisor, February 2000, National Institute for Occupational Safety and Health (NIOSH) and the National Safety Council.

“Can’t Find Your Blocks? - Use Safety Props”

In the past year, seven miners died while working on equipment because safety props were not available and blocking was either not used or ineffective. All of these fatalities may have been prevented if permanently attached mechanical safety props were installed and used on the equipment.

One miner was crushed between the bucket lift arms and front-end loader frame because the loader was not effectively secured from movement. Another miner was trying to free wedged material in a hopper with the hinged gate (grizzly) temporarily propped up with a fence post. As he jarred the hopper, the fence post dislodged and the grate dropped and crushed his skull.

In another accident, a truck driver was crushed when the bottom dump doors on a truck trailer suddenly closed while he was cleaning out the trailer.

These type of accidents may have been prevented if permanently mounted and hinged prop support posts were installed on the equipment. They are typically the cheapest

and quickest blocking/cribbing solution for safely working under or between hinged or elevated components. Blocking and cribbing is time-consuming and if not done correctly, can actually create additional hazards.

In the case of the hinged gate (grizzly), if a permanently mounted safety prop had been installed, similar to the mechanical prop used to secure a car hood in the open position, the accident could have been prevented.

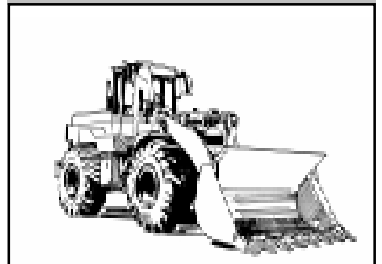
When installing a permanent hinged safety prop remember to:

- Size the prop correctly.
- Attach the prop to ensure that it can handle the expected load.

Design the receiving end of the prop so it cannot kick free or slip out of position when it is being deployed. (For example, provide a hole in the free end of the prop through which a pin can be inserted to secure it to a corresponding hole in the machine frame.)

Install props permanently on mobile and stationary equipment so that they are always ready to be used.

The permanent installation of safety props will save you time and money during maintenance and most importantly, it can save your life, so take steps now to equip your mobile and stationary equipment with permanently mounted safety props.*





Mine operators may now file required information over the Internet.

Operators of any U.S. mining site may now file legal identity reports with the Department of Labor's Mine Safety and Health Administration (MSHA) over the Internet. Mine operators and independent contractors can now submit MSHA Form 2000-7, the legal identification report, using a standard computer terminal with a modem providing access to the world wide web.

"We'd like to make compliance with MSHA requirements as simple and easy as possible," said Davitt McAteer, Assistant Secretary of Labor for Mine Safety and Health. "This new service will greatly reduce the paperwork burden for mine operators submitting this important information."

Federal regulations require that every mine operator submit

information that includes the name and address of the mine, the name and address of the person who controls or operates the mine, as well as any changes to this information, to MSHA in a prompt manner. Previously, it was required that mine operators file the legal identity report and every change of any information contained in that report, to MSHA by properly completing MSHA Form 2000-7 and mailing or otherwise delivering the form to the appropriate agency district office.

Effective immediately, computer users may file the legal identity report with MSHA online using the agency's homepage at www.msha.gov. Once on the MSHA homepage, computer users should click on "forms and on-line filings" and then, "Form 2000-7, legal identity report." From there, users should follow the on-line filing instructions.

Also effective immediately, any changes that need to be reported in the legal identity information can be done by providing only the information that has changed rather than completing a new form in its entirety either on-line or through the mail.

Mine operators who choose not to use the on-line service may continue to submit any required information by completing and mailing legal identity reports to the appropriate MSHA office. Those who are unsure of which office to file the form with, may mail the legal identity report to MSHA's Office of Assessments, 7 North Wilkes-Barre Blvd., Suite 432, Wilkes-Barre, PA 18702.

MSHA has responsibility for inspection of all U.S. mining operations for compliance with regulations intended to protect workers' safety and health. The agency also investigates all serious and fatal accidents that occur at mining operations.■

For more information contact:
Rodney Brown
Phone: (703) 235-1452

MARCH/APRIL 2000

MSHA***Solicits Comments on Equipment Guarding Guide***

MSHA announced its request for comments to assist in the updating of its "Guide for Equipment Guarding for Metal and Nonmetal Mining."

The guide was last revised in 1992. Its purpose is to assist industry, labor, and MSHA inspectors in obtaining consistency in compliance throughout the mining industry with MSHA guarding requirements.

Over the next several months, MSHA will be reviewing and revising the current guide and expanding it to include guarding at coal mines and make other additions and improvements.

According to MSHA, there has been a great deal of confusion over the years over what constitutes "area guarding," and it would be useful to provide a definition in the revised Guide.

MSHA is soliciting comments from the mining community on how the current guide can be improved. Commenters are encouraged to submit any suggestions for improving the Guide, including identifying issues or scenarios that are not covered by the current Guide that should be addressed. Commenters may also have

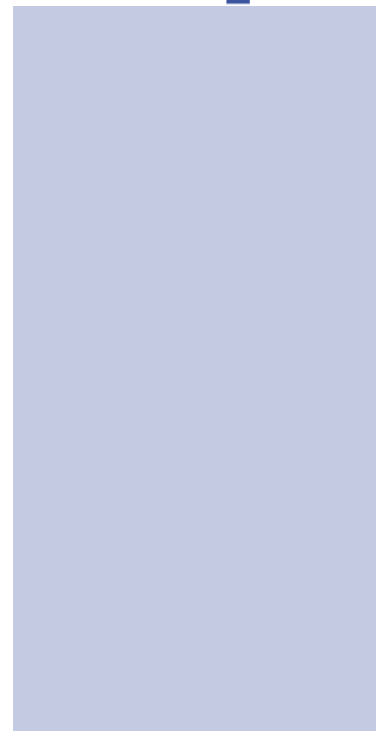
suggestions for how the current Guide could be made clearer or easier to use. MSHA also encourages commenters to submit photographs, drawings, or diagrams to illustrate their comments.

A copy of the current Guide is available for viewing online at <http://www.msha.gov/s&hinfo/equipguard/equipguard.htm>.

You may submit comments or other relevant information in three ways: by email: alejandromary@msha.gov; by fax: send to the attention of Kathy Alejandro at (703) 235-3686 or by mail: Kathy Alejandro, Metal and Nonmetal Mine Safety and Health, Mine Safety and Health Administration, 4015 Wilson Blvd., 7th floor, Arlington, Virginia 22203. ■

The deadline for submission of comments or suggestions is April 28, 2000.

Article taken from the Mine Safety and Health News - Vol. 7, No. 5, March 3, 2000.



Directorate of Technical Support Accident Reduction Program

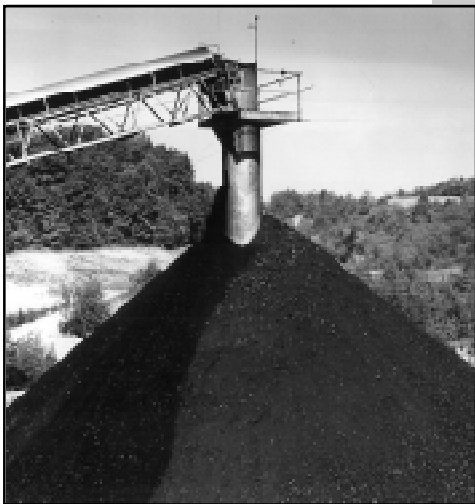
Article from the MSHA Web site <http://www.msha.gov/techsupp/arp/Initiatives.htm>

Accident Solutions

MSHA has worked to provide specific solutions to certain types of accidents and provide the mining industry with these solutions through best practices and videotapes.

Surge Pile Accident Prevention

Operating a dozer pushing coal on a surge pile has been called the most dangerous job at preparation plants. In just over a year, two bulldozer operators have died performing this job. They lost their lives when their bulldozers fell into hidden voids, and they were buried in coal and could not escape. This initiative details best practices to significantly reduce, if not eliminate, surge pile fatalities. To be released April 2000.



Blind Area Elimination: Video Cameras on Surface Haulage Equipment

As surface haulage trucks continue to get larger, the corresponding blind areas are also getting larger. Since 1987, there have been 58 fatalities in the mining industry involving haul trucks where restricted visibility was determined to be a contributing factor. In these accidents, the equipment operator did not expect a person or vehicle to be in the immediate area. This is a serious safety concern throughout the mining community. The increased production levels afforded by the ever increasing size of haulage equipment must not be at the expense of miners safety. The Mine Safety and Health Administration strongly supports the use of video cameras in large haulage vehicles to help solve this problem. To be released April, 2000. ■

MARCH/APRIL 2000

More U.S. Coal Miners Now Eligible for Free Chest X-rays to Detect Lung Disease

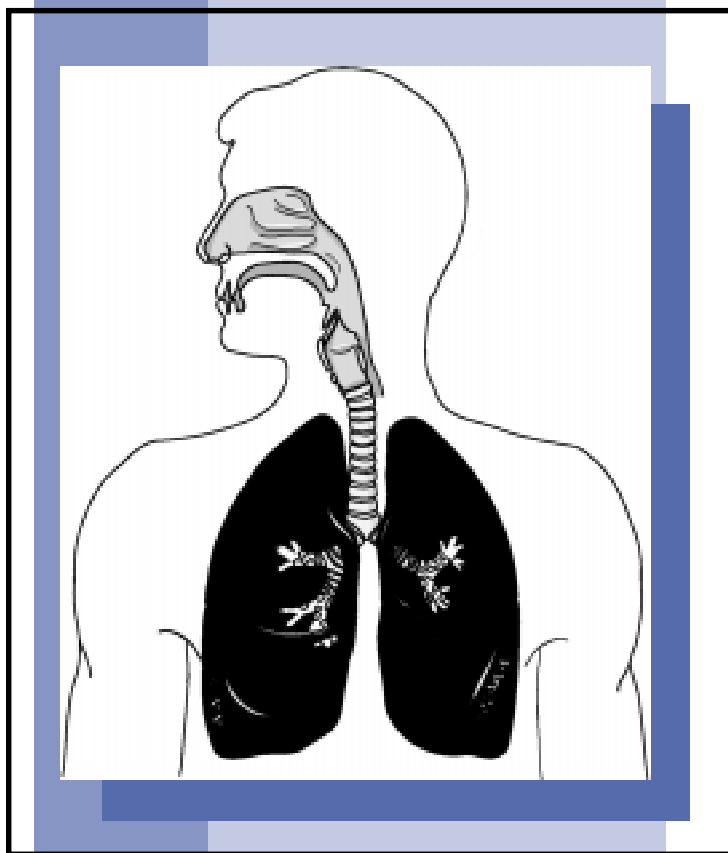
Article from an MSHA News Release No. 2000-0404, dated April 4, 2000

Most eligible in Colorado, Illinois, Pennsylvania, and West Virginia.

Thousands more U.S. coal miners are now eligible for free, confidential chest x-rays to detect work-related lung diseases, courtesy of the Department of Labor's Mine Safety and Health Administration (MSHA).

"The "Miners' Choice Health Screening," a pilot program launched last fall, initially offered free, confidential chest x-rays to some 10,000 coal miners, an opportunity that expired for that group on March 31. More than 7,000 coal miners took the free x-rays during the first phase. During phase two of the program, which began April 1, approximately 10,000 more coal miners are now eligible for the free tests and are being notified by MSHA officials.

"We are encouraged by the number of coal miners who volunteered for the free x-rays in the first phase of this pilot program," said Davitt McAteer, Assistant Secretary of Labor for Mine Safety and Health. "I urge all miners who are now eligible for the free tests to take



advantage of this opportunity and help us rid the mining industry of this disabling disease now and forever.”

The pilot chest x-ray program is designed to ensure confidentiality, a concern shared by many of the eligible coal miners around the country.

“Our pilot program to check for black lung disease among miners is strictly confidential,” said McAteer. “MSHA pays for the x-rays and NIOSH coordinates reading of the x-rays. No one else—neither the mine operator nor any other person or agent for any public entity may have access to any miner’s chest x-ray results. The results are only available to the miner having the chest x-ray.”

Under the pilot program, MSHA informs all eligible miners of the free x-rays and provides information on how they can get them. Retired miners or non-working miners are not eligible. Miners may take the free x-rays at any of the nearly 70 participating medical facilities located nationwide. MSHA pays for all of the x-rays under the pilot program. All x-rays are sent to the National Institute for Occupational Safety and Health (NIOSH) which coordinates test readings and will then notify each tested miner of individual findings. MSHA will not receive individual results of any x-rays. Only statistical information concerning the results will be

examined to determine the true depth and scope of black lung disease in the nation today.

McAteer continued, “The results of these x-rays are very important because it will tell us the extent of black lung and other occupational respiratory illnesses among coal miners. Once we have this information, we’ll know where to direct the resources of this agency and the mining community to eliminate this disease from the mining industry.”

MSHA moved to implement the pilot program in response to a 1996 federal advisory committee chartered to make recommendations on eliminating black lung disease among miners.

With the exception of Kentucky, where every working coal miner is eligible for the free chest x-rays under the pilot program, only working miners at selected mining operations are currently eligible for the free chest x-rays. In offering the x-rays to 20 percent of all coal miners in the initial year of the program, MSHA hopes to test every coal miner in the nation over a five-year period.

As of April 1, over 2,000 miners in West Virginia are eligible for the free x-rays, the highest of any state. Next highest are Colorado and Illinois where more than 800 miners are now eligible in both states. Approximately 500 miners are eligible in Pennsylvania, Utah, Virginia, and

Wyoming. The free chest x-rays are available through September.

Since 1994, MSHA has been engaged in a multifaceted effort to end black lung disease and silicosis among U.S. mine workers. Among these actions were the appointment of an advisory committee to study elimination of black lung disease, establishment of a toll-free dust fraud hotline for miners to report excessive levels of respirable dust in their workplace, plans to shift to a single-sample system of measuring dust levels for enforcement purposes and increased coal mine dust sampling conducted by the agency rather than mine operators. ■

For further information concerning MSHA’s chest x-ray program, call toll-free, 1-800-706-0735. A list of participating medical facilities where the chest x-rays may be obtained is available on MSHA’s Web page at <http://www.msha.gov/s&hinfo/blung/xray/xraymine.htm>.

Wellness

Wellness is any activity, behavior, or attitude that improves the quality of life and enables daily functions to be performed with energy and interest. Physical fitness is obviously an important component of wellness. Other areas include:

- Nutrition and weight control
- Medical examinations and disease prevention
- Stress management
- Personal and occupational safety
- Substance abuse prevention

Fitness is developed and maintained through a regular program of vigorous physical activity which addresses all four components—flexibility, cardiovascular fitness, muscular fitness, and body composition. Such a program contributes to personal health, performance, and overall wellness. Some of the most important benefits of regular exercise are described below.

Exercise and Heart Disease

Cardiovascular disease is often referred to as the “disease by choice.” It is estimated that 70 percent of all deaths from this disease could be prevented by lifestyle changes. Regular aerobic exercise is one of these changes.

Aerobic exercise slows the build-up of plaque in the arteries of the heart, helps

prevent obstructive blood clots from forming in the arteries, improves the levels of cholesterol in the bloodstream, and contributes to normal blood pressure. Aerobic exercise also makes the heart a stronger and more efficient pump. Resting heart rate usually decreases after exercise training because the heart can pump more blood per beat. Therefore, it needs to beat fewer times to circulate the same amount of blood.

Exercise and Cancer

Studies have found that men and women who exercise are less likely to get colon cancer. Research also suggests that women who do not exercise have more than two and a half times the risk of developing cancer of the reproductive system, and almost twice the chance of getting breast cancer.

The **Journal of the American Medical Association** in November 1989 reported that those who exercise moderately, compared to those who do not exercise at all, reduce their risk of early death from cancer and heart disease by **50 percent**.

Exercise and Weight

According to the National Center for Health Statistics, “half the adult population of the United States (70 million) is considered overweight.” Other sources report even higher figures of 83 percent of the population as overweight (on average, 17 pounds for women and 18.5 pounds for men).

Exercise is essential in any successful weight loss program. Exercise burns calories, so weight lost through an appropriate diet accompanied by exercise is more likely to be fat rather than water or valuable muscle tissue.

Weight loss is also more likely to be maintained with regular exercise. Repeated weight loss and weight gain, known as the yo-yo syndrome, causes a drop in the metabolic rate. By preventing the loss of active muscle tissue, regular exercise helps maintain a healthy metabolism that will assist weight maintenance.

Studies of weight loss participants reported that those who tried to maintain weight loss through diet alone were not successful, regaining an average of seven pounds. However, those participating in an exercise program regained an average of only two pounds.

Exercise and Aging

Although aging is inevitable, there is great variability in the aging process. Research has shown a direct relationship between physical fitness and the physiological changes that occur in the body due to aging. The rate of deterioration can be slowed by the maintenance of adequate fitness levels through regular physical activity.

Exercise strengthens muscles, joints, tendons, and ligaments. This may prevent, improve, or correct certain ailments such as lower back problems, tendinitis, bursitis,

and some types of arthritis.

Weight-bearing exercise also prevents the loss of bone minerals which can lead to osteoporosis.

In fact, exercise may actually counteract the process of aging. Exercise slows the loss of stamina, strength, flexibility, bone density, metabolic rate, and general enthusiasm for being active. Exercise may counterbalance the age-related decrease in work capacity and physical performance, and contribute to the ability to maintain and sustain an independent lifestyle. This benefit increases the likelihood that you'll enjoy the years of retirement you've worked so hard for.

Exercise and Mental Health

Exercise has been shown to contribute to psychological health and well-being in a number of ways:

▼ **Fatigue**—Exercisers go to sleep more quickly, sleep more soundly, and are more refreshed than those who do not exercise. Physically fit individuals are also more resistant to fatigue, and tend to have more energy to participate in activities typical of high-quality, productive lifestyles.

▼ **Stress**—Exercise dissipates hormones and other chemicals that build up during periods of high stress. Exercise also generates a period of substantial emotional and physical relaxation that sets in approximately an hour and a half after an intense workout.

▼ **Depression**—In her book *Mental Skills for Physical People*, Dr. Dorothy V. Harris wrote, "exercise is nature's best tranquilizer." Researchers have found that mildly to moderately depressed individuals who engage in aerobic exercise 15 to 30 minutes per day at least every other day typically experience a positive mental adjustment in two to three weeks.

▼ **Self-Esteem**—Research has documented the assertion that individuals who exercise regularly feel better about themselves than sedentary individuals.

▼ **Mental Sharpness**—Individuals who exercise regularly appear to have better memory capability, reaction times, and levels of concentration than nonexercisers.

Exercise and Other Lifestyle Choices

Individuals who make a fitness commitment and strive to maintain and improve the quality of their lives through physical fitness tend to extend these pursuits into other lifestyle choices. Related health-promoting habits—like avoiding tobacco, alcohol, and other harmful substances—often accompany the decision to exercise regularly.

Summary

Our bodies are designed for physical activity. Unfortunately, many people in today's technological society are not as active as our ancestors, who often worked hard as part of their

daily routine. Even miners, on average, don't get enough physical activity on the job to positively affect their health.

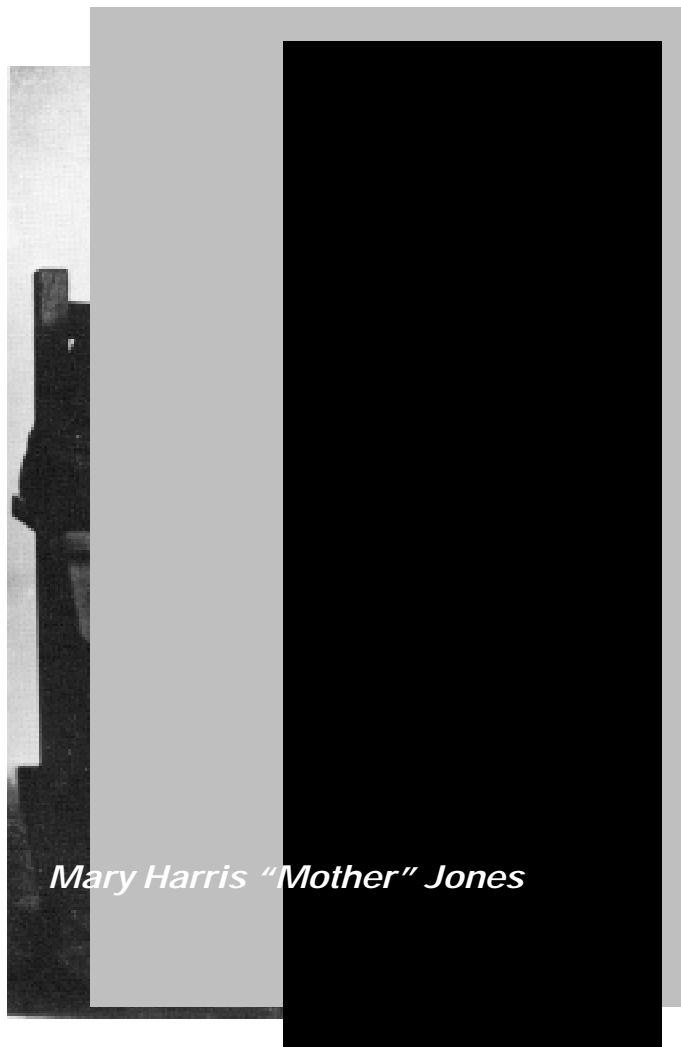
Our sedentary lifestyles have resulted in a category of diseases that are actually caused by or made worse by a lack of physical activity. These include coronary heart disease, high blood pressure, obesity, anxiety, depression, and lower back problems.

In addition to health considerations, physical fitness is necessary for a balanced and quality lifestyle. It contributes to performance on the job, in sports, and in many other areas of life. Miners, in particular, need levels of fitness above those of most other workers because of their physically demanding profession.

Therefore, miners need a program of ongoing and relatively intense physical activity in their daily lives. The studies overwhelmingly suggest that individuals who exercise regularly tend to be healthier at any given age. Although the process takes time and commitment, the physiological (body) and psychological (mind) improvements are well worth the effort.*

The Miner's Angel

by Melody Bragg, Bulletin Staff Writer



Mary Harris "Mother" Jones

Mary Harris Jones was no lady. Even her staunchest supporters would concede that fact. Legend maintains that "she could cuss the chickens off the roost and step over a snake without blinking an eye." She traveled the country by foot and by railroad, often sleeping on the floors of people's homes

and occasionally even in jail. Depending on who was speaking, this little lady had many nicknames, ranging from the "Angel of the Miners" to the "Old Hag." But to the men who loved and followed her, she was simply "Mother Jones."

Perhaps Mother Jones fit the more common image of a lady when she was young, before the

tragedy of losing her husband and four children in a yellow fever epidemic in 1867 and before witnessing the plight and poverty of the working class which hardened and angered her. But if so, her loss of gentility did not bother her at all. In her opinion, ladies were "parlor parasites" and "God made the women and the capitalists made the ladies." She didn't share the prevailing opinion of her day that women were obliged to be the weaker, gentler sex. She once told a group of female suffragists, "you don't need a vote to raise hell."

Mother Jones took her own advice to heart. She raised hell beside the textile workers in the South, the revolutionaries in Mexico, and the miners of Appalachia. In fact, her battles for the United Mine Workers of America, which made her famous, were only one chapter in a lifetime war against unfair labor conditions.

It is doubtful that the job offered to Mother Jones by the United Mine Workers union would have been offered to, or accepted by, someone of a more ladylike nature. The union wanted Mother Jones to serve as a 'walking delegate' through its newly designated District 17, which included the entire state of West Virginia. For three dollars a day plus expenses, she would be required to preach unionism in one of the most hostile areas in

America. She would be working in a region where organizers had reported being ignored, run out of towns, and even beaten by representatives of the coal operators. Even the welcome of the miners themselves was not guaranteed because they could be fired or blacklisted for even being seen at the meetings, and evicted from their homes for offering her hospitality.

However, Mother Jones attacked her new assignment with enthusiasm and joined other organizers traveling through West Virginia urging support of the union. It soon became apparent that of all the speakers, it was Mother Jones the miners loved and lined up to follow. The sight of the frail looking, white-haired woman in black walking the railroad tracks and dirt roads of southern West Virginia won the hearts of miners as no speeches ever could have.

After organizing locals along the Kanawha River, she moved into the New River field in December of 1900. Miners along the New River quickly grew to love Mother Jones for her fiery speeches and the affection was mutual. During her travels through the area, Jones spent hours talking to the miners and their families and sympathizing about the hardships they faced. Infuriated at the conditions under which miners were living, she adopted them as “her boys” and became even more determined

to fight for their cause.

She was once heard to vow, “When I get to the other side, I shall tell God Almighty about West Virginia!” No one will ever know if Mother Jones got her chance to tell the Almighty about the plight of West Virginia miners, but history makes it clear that she continued to tell anyone else that would listen. In a speech before the UMW national convention in January 1901, she declared that “Any man or woman who witnessed the scenes I saw in that state would betray God Almighty if he betrayed those people. My brothers, I would consider it an honor if when you write my epitaph upon my tombstone you say, ‘Died fighting their battles in West Virginia.’”

When she returned to the area in May, Mother Jones proved the sincerity of her declaration of war on the coal companies. She established a headquarters in Montgomery, West Virginia, and took a New York City reporter, Dorothy Adams, on an inspection tour of the New River fields. Adam’s report would be filled with tales of the hardships faced by union organizers on their campaigns. The women were met in every town by constables carrying injunctions to prohibit Mother Jones from speaking to the miners. Against all opposition, Mother Jones continued to speak her piece in her own forceful style.

In 1902, inspired by a new feeling of confidence, organized miners in the New River field asked for a joint conference with coal operators to discuss their demands. The operators ignored the request and a strike was scheduled to begin on June 7, 1902.

Mother Jones was sent to the Fairmont field where she was arrested for violating a court ordered injunction against public speaking. She was offered a hotel room in Clarksburg but refused and insisted on being sent to jail with “her boys.” She left the Fairmont field after being given a lecture and a warning by Judge John J. Jackson.

Undaunted by her experience in jail, Mother Jones immediately became involved in the violence erupting in the New River fields. Unlike other operators, who had agreed to close down and outwait the striking miners, Justus Collins reacted by bringing 40 armed Baldwin-Felts guards into his operations at Glen Jean, West Virginia. This move not only angered the miners but the other operators as well. They were not pleased to see Collins control the only producing mine in the New River field.

While Collins continued to run his mine under the protection of the guards, Federal Marshall Dan Cunningham and

(See next page)

deputies arrived with injunctions and evicted 800 miners and their families from coal company houses by August. The evicted miners and their families were often forcibly removed from their homes, and their meager belongings were simply dumped along the railroad tracks. Angry, homeless miners all over the New River field were moving their families in with relatives and taking to the hills with their guns.

On August 24, 1902, Mother Jones arrived at the Thurmond station where Marshall Cunningham served her with an injunction. She stuffed the paper in her bag and continued on her way to a meeting at Gatewood. Mother Jones was no stranger to the Gatewood area. At an earlier meeting, someone opened fire on the audience and Gatewood resident, A. D. Lavender, had to carry her out of bullet range piggyback style. Later, Mother Jones would learn that her piggyback savior would never be able to carry her again. In 1912, he was thrown from a train by mine guards and his spine was permanently damaged.

But in August of 1902, the meeting of the miners and Mother Jones would prove to be a peaceful one. However, the same could not be said of other nearby areas. Violence broke out again and again throughout the New River coal field.

The tactic of the armed

guards, who often beat miners while carrying out evictions, was answered by violence from the strikers. Snipers at the coal camps of Caperton, Rush Run, and Rend (now Minden), continued to fire upon guards. Nearby at Red Ash, a gun battle broke out between the guards and the miners which kept the canyons echoing with the sound of gunfire from early dawn to dusk.

Fayette County Sheriff Nehemiah Daniels and representatives of the coal companies traveled to Charleston to enlist the help of Governor White. The Governor agreed to send the National Guard to put down the riot but he promised that the troops would be used only as peacekeepers, and not as strikebreakers.

However, this assurance from the Governor proved to be only idle words when miners saw the government troops assisting in evictions within two days of being dispatched to the area.

In October, the strike ended in the Fairmont, Pocahontas, and most of the Kanawha coal fields. But New River miners voted to continue to hold out against the operators. Too much blood had been shed for the miners to give up now.

When Mother Jones returned to Montgomery, she narrowly escaped being the victim of a suspicious accident. On December 2, 1902, she woke to find her hotel room full of smoke

from a fire in an adjoining room. The room where the fire began had supposedly been unoccupied for three days. The authorities attributed the fire to arson, as there had been other suspicious fires in the same hotel during the last few weeks. It was not surprising that people suspected the fires were brought about by Mother Jones's visit. It was no secret that many of the local editors and operators held Mother Jones directly responsible for the troubles in the New River field.

On Monday, February 21, 1903, the violence erupted with even more intensity than before. A group of striking miners marched from Quinnimont in Fayette County to Atkinville, near Beckley. When Marshall Cunningham was prevented from serving injunctions on the miners, he declared the action a riot. He traveled to Beckley and to Charleston to raise deputies for a posse. While he was gone, the striking miners began returning home. By Tuesday night, they had reached Stanaford City. Near dawn on the morning of February 25, the miners were attacked by a posse headed by Cunningham, Sheriff Cook of Raleigh County, and Howard Smith, a Baldwin-Felts guard, employed by the C&O Railroad. Seven miners died as the result of gunshot wounds in the battle and at least 16 were wounded. There were no injuries among the

posse members.

After the battle was over, all males in the area were arrested and taken to Beckley. Participants on both sides were indicted, but in a later action in Charleston, members of the posse were exonerated while over 200 miners were indicted.

Following the battle at Stanaford, the union organizers withdrew temporarily from the New River field. The Baldwin-Felts guards and government injunctions had proven successful weapons against the United Mine Workers.

Mother Jones would return to West Virginia many more times over the next few years to fight beside the miners. She was an active participant in mining strikes in Raleigh, Mingo, McDowell, and Mercer Counties. It would be an employee of Justis Collins' Winding Gulf Company who would bestow on her the title of the "Old Hag."

Regardless of the opinion of the coal companies, she remained for the miners a symbol of the admirable attribute any man or woman can have—the courage to fight for what they believe is right.

Mother Jones would not live to see union victory in West Virginia. She passed away on November 30, 1930. In 1932, Congress at last enacted an Act that recognized labor's right to organize and limited the use of injunctions in labor disputes. The mine guard system was finally outlawed in West Virginia

in 1935, five years after the death of Mother Jones.

Maybe the Miner's Angel did tell God Almighty about the plight of miners in West Virginia after all. ■



Miner's Lunch Bucket
Recipe for your appetite

“Gold Miner’s Chili”

- 1 TBS.....Wesson oil
- 3 lbs.....Beef, cut into 1/4” cubes
- 1 1/2 cups.....White onion, finely minced
- 8.....Garlic cloves, finely minced
- 3/4 tsp.....Garlic powder
- 2 cans (15 1/2 oz.).....Chicken broth, with fat removed
- 4 oz (1/2 8 oz. can).....Hunt’s tomato sauce
- 3 TBS.....Ground cumin
- 10 1/2 TBS.....Gebhardt chili powder

or

- 5 TBS.....California chili powder (mild)
- 4 1/2 TBS.....New Mexico chile powder (medium)
- 1 TBS.....New Mexico chile powder (hot)
- 2 tsp.....Salt
- 1/2 tsp.....Meat tenderizer
- 1/2 tsp.....Light brown sugar
- 1 tsp.....Tabasco brand pepper sauce

In a large pot simmer onion and minced garlic in 2 cups of chicken broth for 10 minutes. Add Hunt’s tomato sauce and all dry spices, except the tenderizer and sugar. Mix well. Brown the meat in Wesson oil using a separate pan and drain well. Sprinkle meat with tenderizer. Add meat to the onion/spice mixture. Add remaining broth and simmer 2 1/2 hours. Mix in brown sugar and Tabasco brand pepper sauce just before serving.



The Miner
by Ed Shustack

**Black was the color of the hole below
Where the miner reluctantly would go
To dig and scratch the shiny black ore
In that world below the surface floor.**

**A world of endless dust and grime
And blackness smothering all time
Broken only by the miner's lamp
Little comfort against the terrible damp.**

**Seeping into bones and muscle
Tired and worn from daily bustle
Filling lungs that gasped for breath
Burning eyes all filled with sweat.**

**Then to the ear a welcome sound
A whistle somewhere above the ground
The shift is over once again
And he goes to join the men.**

**Making their way to the bright daylight
That burns away the awful fright
Hiding in the miner's soul
Each time he goes to take the coal.**



MARCH/APRIL 2000

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

Conferences/Seminars and Workshops:

Mine Construction, Maintenance, and Repairs Safety Workshop, May 31-June 1, 2000
Technical coordinator: John Tyler

Mine Rescue Team Trainers Informational Seminar, May 23-24, 2000
Technical coordinator: David Friley

Roof Control Seminar, May 23-24, 2000
Technical coordinator: Joseph P. Fama

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.

Videos:

The following videos have been produced and are available from the Academy for \$8.00 each.

Stay Out of the Danger Zone (C) - Cat No. VC 945, 12 min.

What does the Term Silicosis Mean to You? (C/MNM) - Cat No. VC 913, 13 min.

Publications:

The following publications are free of charge:

30 CFR Part 46 Instructors Guide With Lesson Plans - Cat No: IG 37, 21 pp

30 CFR Part 46 Starter Kit with Sample Training Forms - Cat No: IG 36, 75 pp

Miners' Health Pack, The - Cat No: IG 28, 86 pp

For more information about these products or request a products catalog call Mary Lord

Phone: 304/256-3257

Fax: 304/256-3368

E-mail: mlord@msha.gov



Mining Our History

An Overview of Disaster Anniversaries

*By Melody Bragg,
Bulletin Staff
Writer*

120 Years Ago

Ignition/Explosion of Gas
Gaston Mine
Marion County, WV

March 27, 1880

An explosion that occurred in the head of an entry being driven to the rise of the seam took the lives of two men in this mine. The air current was insufficient and gas accumulated to an extent that the miner's open lights ignited it.

105 Years Ago

Explosion
Number 5 Mine
Red Canyon, WY

March 20, 1895

Sixty-two men perished in this mine when a terrific explosion occurred. The state mine inspector testified that in his opinion, the explosion was caused by a blown-out shot that ignited coal dust. Coal was blasted from the solid using black powder.

85 Years Ago

Explosion
No. 3 Mine
Layland, WV

March 2, 1915

An explosion in this mine took the lives of 114 men inside the mine and one outside. Fifty-four men afterward escaped alive from the mine. Forty-two men were rescued from behind a barricade four days later.

The cause of the disaster was thought to be an accumulation of gas that was ignited by an open light, which resulted in an explosion propagated by coal dust to other sections of the mine.

75 Years Ago

Explosion
Number 41 Mine
Barracksville, WV

March 17, 1925

An explosion on the evening shift took the lives of 33 miners known to be in the mine and 40 horses. The origin was thought to be an ignition of gas in an area where gas had accumulated. It is believed that the accumulation occurred when a door was left open and an arc produced by a mining machine or its cable ignited the gas. Coal dust propagated the explosion over most of the mine.

70 Years Ago

Explosion
Yukon Mine
Arnettsville, WV

March 26, 1930

A coal dust explosion, local in extent, killed the 12 men in the affected area. A heavy fall of coal in a pillar area raised a dust cloud, probably mixed with gas, which was ignited by an arc from a cable-reel locomotive.

60 Years Ago

Explosion
Willow Grove No. 10 Mine
Neffs, OH

March 16, 1940

One hundred and seventy-six men were in the mine on this Saturday morning, when an explosion killed 66 by burns and violence and 3 by burns and afterdamp. Two others attempting rescue were asphyxiated and 1 rescued man died 6 days later from effects of afterdamp.

The cause of the disaster was believed to be a shot of pellet black powder in the left rib. An excessive amount of powder was used and 'bug-dust' stemming as well as coal dust stirred up by this and preceding rock shot were ignited by the flame.



**Joseph A.
Holmes Safety
Association
2000
National Meeting
June 12-15, 2000**

The 2000 National Meetings of the *Holmes Safety Association*, *Mine Safety Institute of America*, and *National Association of State Mine Inspection Agencies* will be held together in Pittsburgh, Pennsylvania, during June 12-15, 2000. These first meetings of the new millennium are hosted by the Pennsylvania State Council of the Holmes Safety Association. The main attraction will be safety and health workshops led by experts from around the U.S. These workshops represent all sectors of mining.

These combined meetings provide a unique opportunity to meet and “network” with other safety and health professionals who, like Joseph A. Holmes himself, put “safety first.”

Workshops (June 14-15)

- Firefighting and Emergency Preparedness
- Oxygen/Acetylene Safety
- Team Building and Communications
- Explosives Safety
- Abandoned Mines
- Human Factors
- Electrical Safety
- Roof Control
- Incident Investigations
- Life Flight and Special Medical Response Team
- Health Issues in Burning and Welding
- Miner Training Panel Discussion

Special events

- Reception, June 13
- MSIA banquet on the Gateway Clipper, June 14
- NIOSH/MSHA facility field trip, June 15
- HSA awards banquet, June 15

The annual Three Rivers Arts Festival will be going on during the conference, with all events within easy walking distance of the hotel.

Business Meetings

- NASMIA, June 12
- MSIA Board of Directors, June 13
- JAH/HSA Executive Committee, June 13
- MSIA Annual Meeting, June 14
- JAH/HSA Annual Meeting, June 15

Location

The conference will be held at the Pittsburgh Marriott City Center at 112 Washington Place in downtown Pittsburgh. Call 800-228-9290 to make your reservations. Reserve by May 22 and mention the Holmes Safety Association to get the discounted room rate of \$90.

For more information, contact **Donna Schorr** 412-386-6901, schorrd@msha.gov

Hotel web site:

- marriotthotels.com/PITDT
- Pittsburgh information and events:**
- www.realpittsburgh.com
- Holmes Safety Association**
- www.msha.gov/PROGRAMS/HSA.HTM

Registration Form

MARCH/APRIL 2000

2000 Holmes Safety Association, MSIA, NASMIA National Meetings

Please complete this form, detach
and mail with check to:

Donna Schorr
MSHA
Box 18233
Cochrans Mill Road
Pittsburgh, PA 15236

Name

Address

Phone

Fax

Email

The conference registration fee is \$150. A discounted fee of \$100 is available for spouses and guests. The fee includes social functions (reception, riverboat dinner cruise, NIOSH/MSHA field trip with bag lunch).

Number of attendees: _____ @ \$150 = _____

Number of spouses/
guests: _____ @ \$100 = _____

Total: _____

Make checks payable to *Holmes Safety Association*

HOLMES SAFETY ASSOCIATION

25

MARCH/APRIL 2000

Words to think about...

Saint Patrick's Day is an enchanted time-a day to begin transforming winter's dreams into summer's magic.

Adrienne Cook

Ireland is rich in literature that understands a soul's yearnings, and dancing that understands a happy heart.

Margaret Jackson

Only Irish coffee provides in a single glass all four essential food groups: alcohol, caffeine, sugar, and fat.

Alex Levine

In Ireland, the inevitable never happens and the unexpected constantly occurs.

Sire John Pentland Mahaffy

There is no language like the Irish for soothing and quieting.

John Millington Synge

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. 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 requests, contact:

Bob Rhea

Holmes Safety Association Bulletin

Mailing List

MSHA-US DOL

4015 Wilson Blvd.

Rm. 523A

Arlington, VA 22203-1984

703/235-1400

Please address any comments to:

Donald Starr

Holmes Safety Association Bulletin

MSHA-US DOL,

National Mine Health and Safety Academy

1301 Airport Road

Beaver, WV 25813-9426

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

Holmes Safety Association Officers and Executive Committee 1999-2000

<i>Officer</i>	<i>Name</i>	<i>Representing</i>	<i>State</i>
President	Steve Lipe	Supplier	AZ
First Vice President	Joseph Scaffoni	State	PA
Second Vice President	Doyle Fink	Federal	TX
Third Vice President	Harry Tuggle	Labor	PA
Fourth Vice President	William Vance	Mgmt.	NM
Secretary-Treasurer	Pat Hurley	Federal	VA

Name	Representing	State	Name	Representing	State	Name	Representing	State
Rod Breland.....	Federal	CO	Richard Burns	Mgmt.	WY	Ron Cunningham	State	OK
Jesse Cole	Federal	WV	Robert Coker	Mgmt.	TX	Steve Dunn	State	MO
John Collins	Federal	OH	Gary Cook	Mgmt.	NM	John Franklin	State	KY
Don Conrad	Federal	PA	Jim Dean	Mgmt.	WV	Larry Frisbie	State	WA
Dave Couillard	Federal	MN	Vern Demich, Jr.	Mgmt.	PA	William Garay	State	PA
Robert Crumrine	Federal	OH	Matt Hindman	Mgmt.	PA	Lee Graham	State	KS
Gerald Davis	Federal	PA	Bill Holder	Mgmt.	NM	Tom Gregorich	State	MN
Ron Deaton	Federal	KY	Glen Hood	Mgmt.	TX	Tony Grbac	State	WV
Bruce Dial	Federal	WV	Robert Johnson	Mgmt.	CO	Ben Hart	State	FL
Bob Glatter	Federal	VA	Joe Kinnikin	Mgmt.	NM	Paul Hummel	State	PA
Jim Hackworth	Federal	VA	George Krug	Mgmt.	FL	D. J. Johnson	State	IL
Whitey Jacobson	Federal	TX	Pete Kuhn	Mgmt.	WY	Phillip Johnson	State	KY
Jerry Johnson	Federal	WV	Joseph Lamonica	Mgmt.	DC	Debbie Kendrick	State	AK
Jack A. Kuzar	Federal	CO	Kevin LeGrand	Mgmt.	IA	Douglas Martin	State	AZ
Rexford Music	Federal	KY	Brian Luby	Mgmt.	NM	Gilbert Miera	State	NM
Joseph Pavlovich	Federal	KY	Ernest Marcum	Mgmt.	WV	Dick Mottershaw.....	State	IL
Leland Payne	Federal	IN	Jon Merrifield	Mgmt.	OH	Jim Myer	State	OH
James Petrie	Federal	PA	Bill Moser	Mgmt.	WV	Bob Novello	State	TX
Bob Randolph	Federal	PA	Kevin Myers	Mgmt.	KY	Glen Rasco	State	GA
Mel Remington	Federal	MD	Myron Nehrebecki	Mgmt.	PA	Ed Sinner	State	OR
Martin Rosta	Federal	AL	Greg Oster	Mgmt.	MN	Richard Stickler	State	PA
James Salois	Federal	CA	Richie Phillips	Mgmt.	KY	Bonita Stocks	State	AR
Donna Schorr	Federal	PA	Richard Radakovich	Mgmt.	PA	Ron Umshied	State	MT
John Shutack	Federal	VA	David Rebuck	Mgmt.	PA	Sam Vancil	State	IL
Judy Tate	Federal	TX	Ray Rucker	Mgmt.	TX	Michael Weaver	State	ID
Timothy Thompson	Federal	WV	Subash Sethi	Mgmt.	NM	Alan Cook	Supplier	AZ
Glenn Tinney	Federal	PA	Nancy Staley	Mgmt.	MI	Chuck Edwards	Supplier	PA
Richard Wood.....	Federal	WV	Cheryl Suzio	Mgmt.	CT	Shea Kirkpatrick	Supplier	CA
Roger Carlson	Labor	MN	Steve Taylor	Mgmt.	TX	Steve Walker	Supplier	WV
Joe Main	Labor	DC	Penny Traver	Mgmt.	MI	Vern Demich	Emeritus	PA
Lloyd Armstrong	Mgmt.	MN	Gary Moore	Mgmt.	NM	William Hoover	Emeritus	AZ
H.L. Boling	Mgmt.	AZ	Doug Conaway	State	WV	Al Simonson	Emeritus	MN
						Harry Thompson	Emeritus	PA

U.S. Department of Lab or
MSHA, Holmes Safety Association
1301 Airport Road
Beaver, WV 25813-9426

FIRST-CLASS MAIL
POSTAGE & FEES PAID
U.S. DEPARTMENT OF LABOR
Permit No. G-745

Place mailing label here

JOIN and GROW with us

Mark your calendar

NOW!



*Risk Assessment Methods
Workshop
August 15-18, 2000
Silver Tree Hotel
Snowmass Village, Co*

*National Occupational Research
Injury Symposium 2000
October 17-19, 2000
Pittsburgh, PA*

*National Mining Association,
Mine Expo International 2000
October 9-12
Las Vegas, NV*