

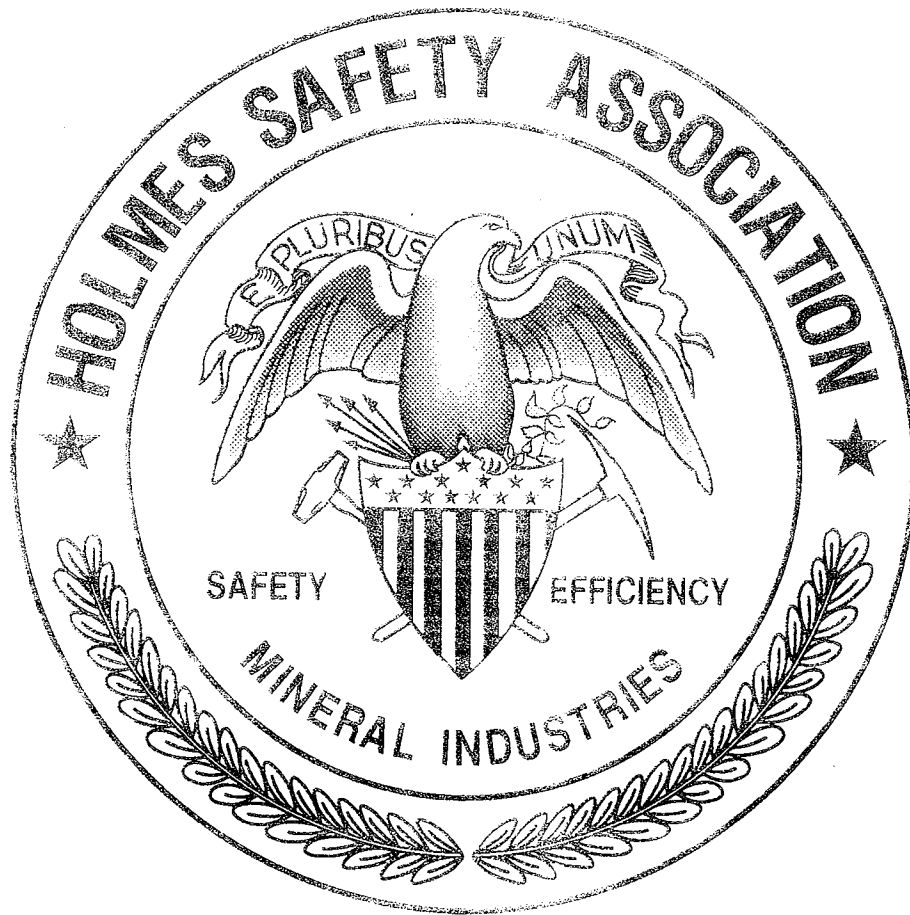
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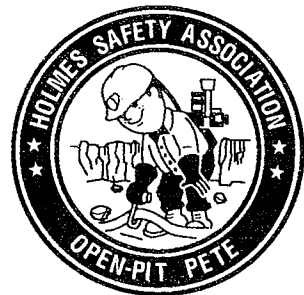
# BULLETIN

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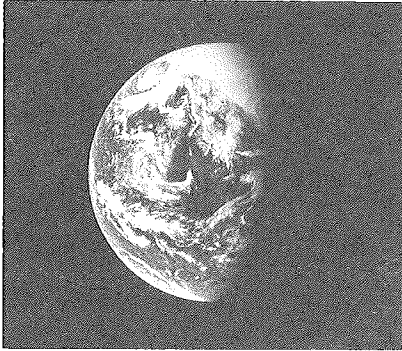
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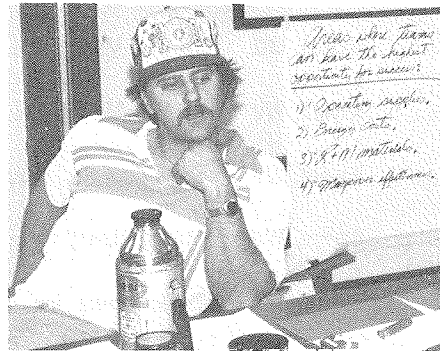
September 1993



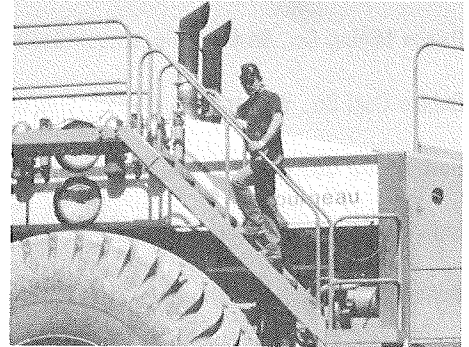
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**Please note:** The views and conclusions expressed in HSA Bulletin articles are those of the authors and should not be interpreted as representing official policy of the Mine Safety and Health Administration.

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## KEEP US IN CIRCULATION

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The Holmes Safety Association Bulletin contains safety articles on a variety of subjects: fatal accident abstracts, studies, posters and other 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.

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# Welcome new members

NAME	CHAPTER NO.	LOCATION	NAME	CHAPTER NO.	LOCATION
Barton Mining Co., Barton Strip .....	10469 .....	Barton, MD	Tri-Star Mining, Inc., Job #3 .....	10494 .....	Barton, MD
Buffalo Coal Co., Walker Strip 4 .....	10470 .....	Bayard, WV	Tri-Star Mining, Inc., Job #15 .....	10495 .....	Barton, MD
Buffalo Coal Co., Kempton Job .....	10471 .....	Bayard, WV	Beryl Coal Co., Beryl Tipple .....	10496 .....	Keyser, WV
Buffalo Coal Co., 34 Prep Plant .....	10472 .....	Bayard, WV	Patriot Mining Co., Yard #3 .....	10497 .....	Frostburg, MD
Buffalo Coal Co., Inc., Mine #5 .....	10473 .....	Lonaconing, MD	Eagle Mining, Inc., Eagle No. 4 .....	10498 .....	Midlothian, MD
MSHA Oakland Field Office .....	10474 .....	Oakland, MD	Mettiki Coal Corp. ....	10499 .....	Oakland, MD
South Coast Materials .....	10475 .....	San Marcos, CA	Pike Industries, Inc. ....	10500 .....	Barre, VT
J&S Construction and Mfg., Inc. ....	10476 .....	Gassville, AR	Rainbow Quarries, Inc. ....	10501 .....	Fort Covington, NY
Bear Safety Consulting, Inc. ....	10477 .....	Oakland, MD	Appalachian Stone Co. ....	10502 .....	Marion, NC
Tanglewood Energy Inc., No. 2 .....	10478 .....	Oakland, MD	Switzerland Stone Quarries .....	10503 .....	Marion, NC
G & S Coal Co., No. 1 Strip .....	10479 .....	Bloomington, MD	Ryan's Rock .....	10504 .....	Vacaville, CA
New Allegheny, Inc. ....	10480 .....	Mt. Storm, WV	Green Island Construction Co., Inc. ....	10505 .....	Harrisville, NY
Buffalo Coal Co., Davis Job .....	10481 .....	Bayard, WV	Malone Quarries .....	10506 .....	Bangor, NY
John Duckworth Coal Co., #1 .....	10482 .....	Frostburg, MD	Robert Lepage .....	10507 .....	Barre, VT
Rostosky Mining, Parker Job .....	10483 .....	Grant, WV	Northern Slate Co., Inc. ....	10508 .....	Fairhaven, VT
Brashear Coal Mines, #1 Strip .....	10484 .....	Westernport, MD	A.A. Hadeka Slate Co., Inc. ....	10509 .....	Hampton, NY
Win-More Mining & Const. Co., #1 .....	10485 .....	Midlothian, MD	Mayhew Plant .....	10510 .....	Corona, CA
Buffalo Coal Co., Wilson Strip .....	10486 .....	Bayard, WV	Welden Aggregates, Inc. ....	10511 .....	Iowa Falls, IA
Winner Brothers Coal Co., .....	10487 .....	Frostburg, MD	BKS Sand & Gravel .....	10512 .....	Kempner, TX
T. D. Mining, No. 1 Strip .....	10488 .....	Lonaconing, MD	Cornick Sand & Gravel .....	10513 .....	Pekin, IL
Hampshire Prep Facilities Co. ....	10489 .....	Keyser, WV	Louis Kole, Jr. ....	10514 .....	Walton, NY
Patriot Mining Co., Inc. ....	10490 .....	Star City, WV	WJ & R Coal Co., Inc. ....	10515 .....	Topmost, KY
Masteller Coal Co. ....	10491 .....	Keyser, WV	Fisher Quarry .....	10516 .....	Camas, WA
Fairview Coal Co., #1 Surface .....	10492 .....	Midlothian, MD	E&T Trucking Co., Inc. ....	10517 .....	Mt. Carbon, WV
Tri-State Coal Operators Assoc. ....	10493 .....	Kingwood, WV	Watkins Sand & Gravel .....	10518 .....	Fort Bragg, CA

# Roof Evaluation—Accident Prevention

REAP—a program developed to promote health and safety awareness in mining

## To: Underground coal mine operators

September has historically been one of the worst months in the year for fatal roof fall accidents. Since 1987 there have been 11 miners killed in September from falls of roof or ribs. Over 12 percent of all fatal roof fall and rib roll accidents during the last five years, have occurred in September.

Let's all be especially careful this September and see if we can beat the odds and get through September (as we did last year) with zero fatalities from falls of roof or rib.

Life is too short to go under unsupported roof. Stay out of the Death Zone.

Take time to warn each miner on the working section of the hazards of unsupported roof and ribs. Follow the approved roof control plan. Don't work or travel, or permit others to work or travel, under unsupported roof. Support or take down loose ribs. Examine the roof for cracks or faults.

Thinking safety and REAP is a big plus. Practicing safety and REAP is a must.

*Tony Turyn, REAP Coordinator*

## Anthracite seminar to be held

A three-hour seminar jointly sponsored by the Independent Miner's Association, Pennsylvania's Bureau of Deep Mine Safety, and the Mine Safety and Health Administration, is being offered to mining personnel of the anthracite coal region of Pennsylvania. Two panels will discuss, "Jurisdiction and Responsibilities of Mine Foremen," and "Pre-Shift Examinations."

The seminar is tentatively scheduled to be held November 3rd and 4th from 4:00-7:00 p.m., at Shamokin and Valley View, Pennsylvania. For additional information contact: Earl Kieffer, Independent Miner's Association; Paul Hummel, Pennsylvania Bureau of Deep Mine Safety; or John Shutack, MSHA District 1.

# Holmes Safety Association

## Monthly safety topic



### Fatal electrical accident

**GENERAL INFORMATION:** A 27-year-old chief electrician, with 10 years of experience, was fatally injured while performing electrical work on an energized 7,200-volt ac dual line splitter.

The mine produces an average of 2,500 tons of coal and employs 78 persons, 75 of whom work underground.

**DESCRIPTION OF ACCIDENT:** About 4:00 a.m., the victim and the section foreman entered the mine on a track-mounted personnel carrier and traveled to the 7,200-volt dual line splitter. The dual line splitter was located in a crosscut between the Nos. 1 and 2 entries approximately 2,700 feet in by the mine portal. The victim had entered the mine prior to the start of the day shift to work on a nuisance tripping problem of the high-voltage circuit.

He asked the section foreman to accompany him to assist in removing the top covers from the dual line splitter.

When they removed the covers they heard a noise that the victim diagnosed as the sound caused by the high-voltage circuit breaker tripping at the surface substation. The section foreman called an outside man, and instructed him to close the breaker in the surface high-voltage station.

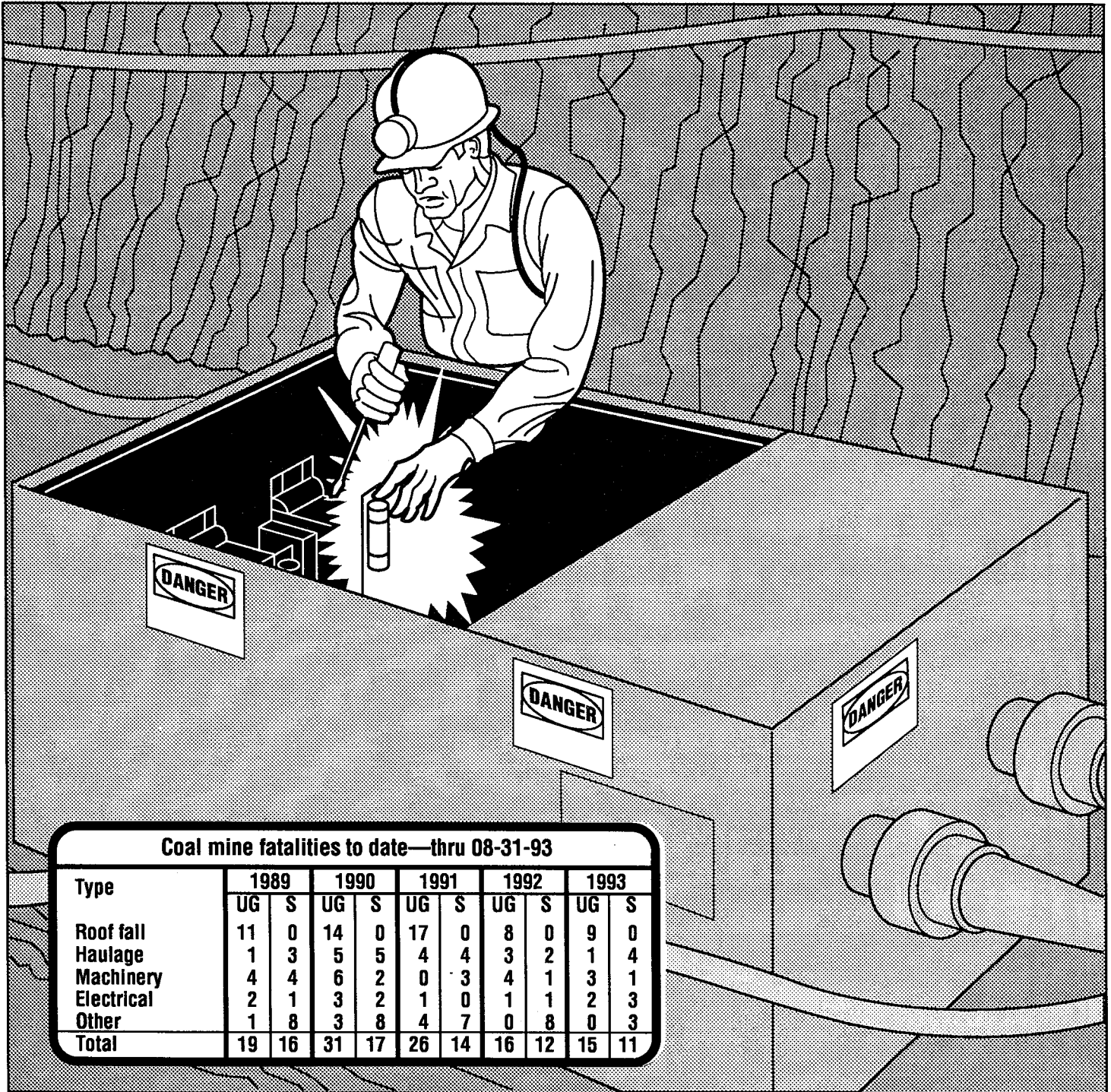
A beltman and two roof-bolters entered the mine about 5:00 a.m. The track was blocked by the personnel carrier

that the victim and the section foreman had taken into the mine. The section foreman told the beltman to assist the victim while he conducted a preshift examination of the No. 1 working section. The section foreman and the two roof bolters proceeded to the No. 1 section.

The beltman stated that when he arrived at the dual line splitter, two of the top covers had been removed to expose the components on the right side. He said that the victim was taping one of the cover switches in the closed position. When the victim completed taping the switch, he asked the beltman to call the outside man and tell him to close the breaker again in the surface high-voltage station.

After making the call, the beltman returned to the dual line splitter where he observed the victim working on the left side of the splitter. The victim then walked to the right side of the splitter where he reached inside with a screwdriver. The beltman saw a small electrical arc, and the victim turned to him and instructed him to get help. The beltman assisted the victim to the mine floor and called the outside man and told him that there had been an accident and to summon the rescue squad.

The beltman ran to the belt-conveyor entry and informed the belt foreman, who was conducting a preshift exami-



**Coal mine fatalities to date—thru 08-31-93**

Type	1989		1990		1991		1992		1993	
	UG	S	UG	S	UG	S	UG	S	UG	S
Roof fall	11	0	14	0	17	0	8	0	9	0
Haulage	1	3	5	5	4	4	3	2	1	4
Machinery	4	4	6	2	0	3	4	1	3	1
Electrical	2	1	3	2	1	0	1	1	2	3
Other	1	8	3	8	4	7	0	8	0	3
<b>Total</b>	<b>19</b>	<b>16</b>	<b>31</b>	<b>17</b>	<b>26</b>	<b>14</b>	<b>16</b>	<b>12</b>	<b>15</b>	<b>11</b>

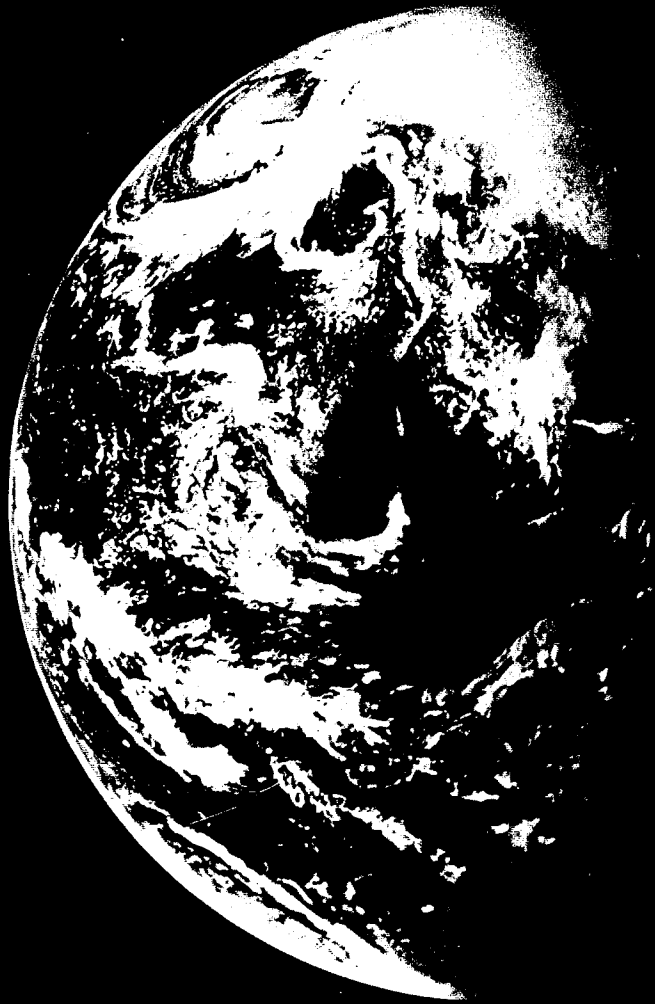
nation at the time. They found that the victim was having difficulty breathing and did not have a pulse and began administering CPR.

An ambulance arrived within minutes and he was transported from the mine to the hospital where he was pronounced dead.

**CONCLUSION:** The accident and resultant fatality occurred because the victim failed to deenergize, disconnect, lock out, tag, and ground the 7,200-volt a.c. circuit to the dual line splitter prior to performing electrical work inside the dual line splitter.

# Minerals and the environment in the 21st century

*By David S. Brown*



Few issues pose quite as profound consequences to the quality of life and the creation and distribution of wealth as how we protect the natural environment. No longer a peripheral but a global concern, the environment, once almost nobody's business, now has become everybody's business. It is also the single biggest issue facing mining and mineral activities.

This heightened ecological awareness and sensitivity have spawned a new commitment to restore, protect, and preserve

nature. But that very commitment poses difficult socioeconomic tradeoffs, such as: What and how many resources can be given up to prevent and reduce pollution? What are the opportunity costs associated with meeting higher environmental standards? What problems are more important or pressing than others and should be given priority? Choices have to be made which may entail unintended consequences for other societal goals.

The "environment vs. development"

dilemma is not just a debate about facts but a difference over values—what is good, what is preferable, what ought to be, and what people are willing to pay for. Often it gets framed, not in matter of degree, but as an either/or proposition. Either we protect the environment or we develop it. This is what logicians call the “fallacy of the false dilemma,” in that one is not necessarily limited to choosing between two options. We can, indeed we must, make many choices that allow for both environmental protection and economic growth. Nature and development are not ends to themselves. Neither man’s material needs nor the natural environment which supplies them can be isolated from the other. Their interests are not mutually exclusive but inextricably linked.

A new phrase that has emerged in this debate is “sustainable development.” The 1987 Brundtland Commission report sponsored by the United Nations defined it as “development that meets the needs of the present without compromising the ability of future generations to meet their needs.” It carries the notion that future prosperity depends on balancing human activity with nature’s ability to renew itself. Not only should we be taking into account our descendants’ need for cleaner air and water, for example, but also their having a variety of minerals in sufficient quantities to meet their material needs. Actions to protect the environment, for instance, should not foreclose future opportunities to search for, access, and use minerals for technologies that we only dream about today. Striking that proper chord of balance is difficult, but first we must agree it is worth striking.

We have learned much about the earth’s

geologic, climatic, and natural processes and how complex its ecologic webbing truly is. Still, our knowledge remains imperfect and often too rudimentary to make sweeping judgments about cause and effect relationships between human activity and nature. Oversimplifications and emotional appeals should not drive out good scientific reasoning, sound economic analysis, and good common sense.

We should strive to balance realistic environmental goals with other societal goals, such as creating jobs, homes, and hope for the millions who are jobless, homeless, hungry, and despairing. The environment cannot be considered in isolation from these human needs, nor should a single-minded focus on pollution-related health risks derived from using resources obscure the human health toll that joblessness, poverty, disease, and despair exact when economic growth is stymied.

Billions of people are seeking to share in the material benefits of a modern technologic society. As they do, greater demand and stress are placed on locating, developing, using, and reusing the planet’s mineral resources. In the final analysis, environmental ethics are a matter of wise stewardship. As delegated stewards, we are obliged to leave the created order and the people in it in better condition than we found them. This means not only cleaner air, cleaner water, and more biodiversity, but more freedom, more economic opportunity, more market competition, more cultural diversity, and more security from war, disease, and famine.

Wise stewardship means making decisions about how resources are preserved and protected and how resources get used for the common good. President John F.



Kennedy once stated: "Our entire society rests upon—and is dependent upon—our water, our land, our forests, and our minerals. How we use these resources influences our health, security, economy, and well-being."

Economic growth not only raises standards of living, but creates the capacity to protect the environment, to prevent and clean up pollution, and to improve public health. Economically progressive nations have the required capability to be wise stewards of the natural environment. Where there has been economic deprivation, environmentally devastating practices have often abounded. Nations where economic growth is fostered and technologic innovation encouraged are the most able

and willing to allocate significant financial and technical resources to the environment. Therefore, if we are going to make progress to clean up past damage and curb future contaminations, strong, sustainable economic conditions, particularly in the developing world and nations in transition to market economies, will be required.

If strong economies and a healthy environment are therefore linked, then minerals are key ingredients for both to work together effectively. Minerals are the building blocks of the complex human environment called civilization. Everything in the world that is not grown is drawn from the earth, processed, refined, and used to make things. Minerals give things structure and im-



part desired characteristics and properties, such as strength, conductivity, and heat and corrosion resistance. While air, water, and wildlife are recognizable resources, minerals are less appreciated because their identity is often hidden in finished products.

Found in everything from the food we eat to the clothing we wear, from skyscrapers, satellites, transportation, toothpaste to computers, modern medicine, and every kind of gadget and convenience, minerals uniquely enrich, sustain, and protect our lives in incalculable ways. Minerals are the source of new wealth that cannot be created from the sale of services. Finding them and drawing them from the earth always has been and will continue to be one of man's great high callings.

Minerals also give us the capabilities to be wise stewards of the natural world. Advanced technologies to prevent and clean up pollution and new more environmentally compatible materials are created, designed, and used according to the special properties of one or more minerals found in nature, as we will discuss later. No matter how complex or simple the product may be or how routine or revolutionary its uses are, it is made possible because of something found in the ground that we can grind, mix, melt, extrude, stretch, cast, mold, and stamp into something useful—something that will benefit people and improve their lives by sustaining a healthy environment.

But first, it all begins with the hunt—the search for earth's hidden treasures. Exploration remains the lifeblood of mining. Lands must be made available

to geologic inventoring for their mineral values. We find minerals where nature placed them, not where we want them to be. Often we would like them to be located more conveniently. Yet the scenic natural beauty that we value may also be underlain with mineral wealth. The same geologic forces that created spectacular, mountainous grandeur also concentrated the minerals. Consequently, land use conflicts can and do arise between the values that are seen and the values hidden in the earth's geology.

To be wise stewards of the land, we need to know its various resource values, whether surface or subsurface, organic or inorganic. Good stewardship requires the benefit of inventoring the land's hidden resource potential. We cannot make wise decisions about the use of resources that we don't know we have. In effect, exploration today gives future generations more information about possible choices they have about how to best meet their material needs.

Extractive industries, like mining, are viewed by many as ecological pariahs that spoil nature and feed the over consumption of finite resources. Indeed, the results of past practices, often insensitive to the environment, contribute to mining's poor public image today in much of the developed world and the perception that mining is an arcane, sunset enterprise no longer relevant to modern society.

Yet the mining industry has changed dramatically over the past decade. It is a global industry, leaner, more competitive, and more attentive to its product stewardship responsibilities; and its

future is tied to technology unlike ever before. To respond and adapt to a world of dynamic change, it will have to constantly innovate, particularly to deal with more and more stringent environmental regulations.

Environmental effects occur throughout the mineral cycle from exploration and production to processing and disposal. Surface hardrock mining operations may cover thousands of acres; generally their wastes are high-volume, but low-toxicity. Each site is different based on hydrogeologic, climatic, and mineral characteristics and requires site specific, waste specific regulatory approaches. For instance, sulfide ores pose the most difficult problems because of their potential acidification and release of heavy metals to surface and ground waters. Therefore, special pre-mine design, process controls, and disposal considerations become ever more critical.

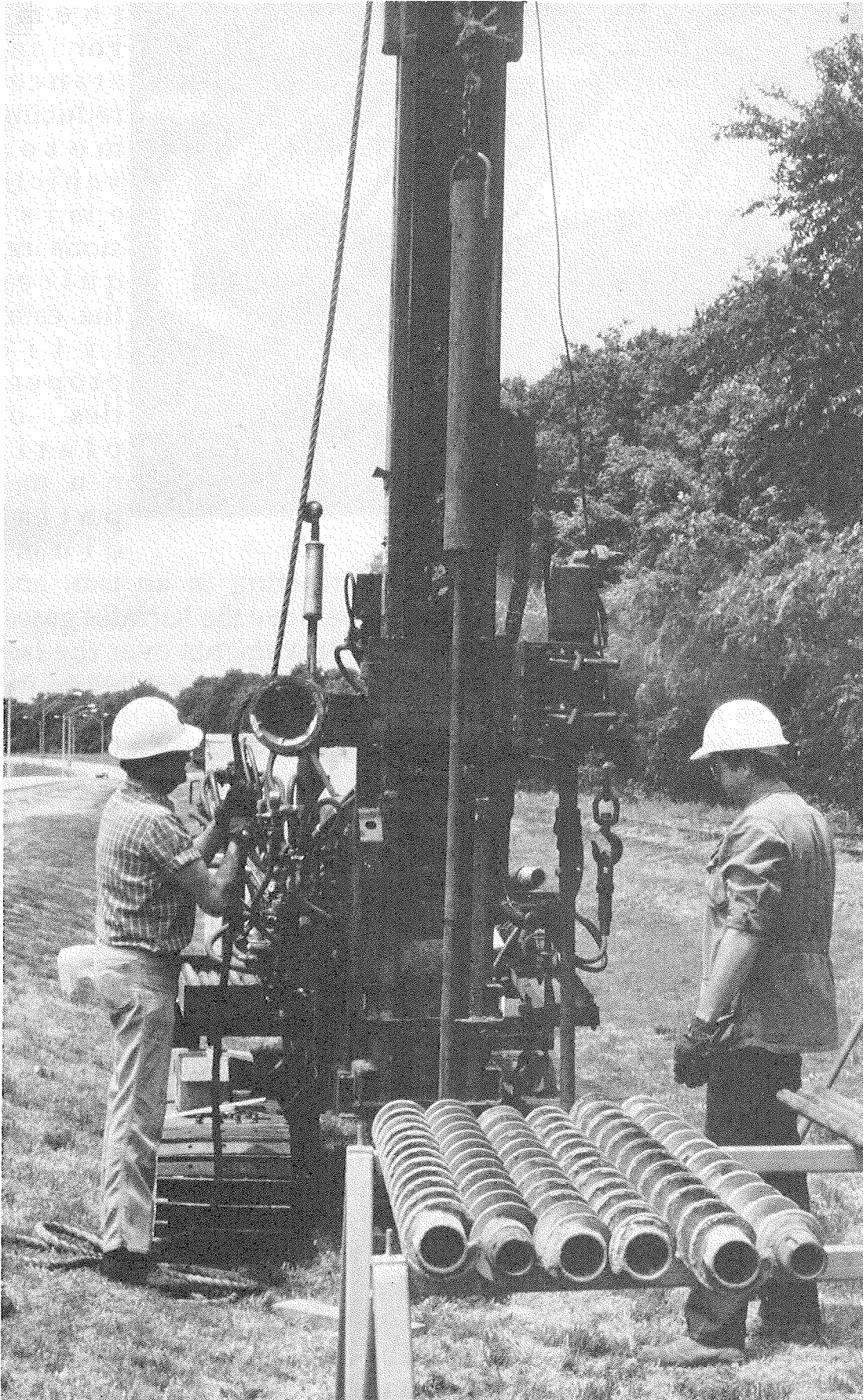
We are now seeing the future in innovative technologies to prevent and treat waste generation. One such preventive breakthrough is in situ leaching, where chemical or biological agents extract the desired mineral components from their geologic setting without creating waste rock. Another promising treatment approach for contaminated mine waters pioneered by the U.S. Bureau of Mines is construction of wetlands that remove metals and neutralize acidity by biological activity. Use of bacterial agents is also proving successful in reducing cyanide levels in gold operations. The potential for biological treatment systems to decontaminate waste streams in abandoned or active operations is enormous and represents

one of the Bureau's key research thrusts.

Mineral activity is a temporary, interim use of land and, in many cases, proper reclamation can even enhance other resource values, such as creating new wildlife habitat and pasture land. Continuous reclamation innovations always will be required to improve slope stability, recontouring, and faster revegetation.

Old mine and mineral processing waste sites are often strictly handled as a pollution problem, not as a potential economic resource. Seen as an ore body, however, tailings contain valuable minerals that can be reprocessed or remined. But the legal liabilities of such historic [older] sites being designated as hazardous, discourage using many efficient, innovative, and cost-effective techniques that could recover commercial minerals and, in the process, leave an even cleaner, safer site. More flexible approaches would give new market incentives to clean up these old abandoned sites more efficiently and add to the world's minerals supply.

Likewise, some materials are viewed as hazardous even though they are routinely recovered, reused, and rejuvenated into useful products without ever reaching landfills, water systems, or disposal sites. The problem is that valuable resources which are part of a closed processing system or for which there is a ready market are being considered as hazardous, subject to costly controls or even prohibition such as with potliners in the aluminum industry. Scrap metals, including precious metal, for instance, are recyclable because they have commercial value as a raw material in

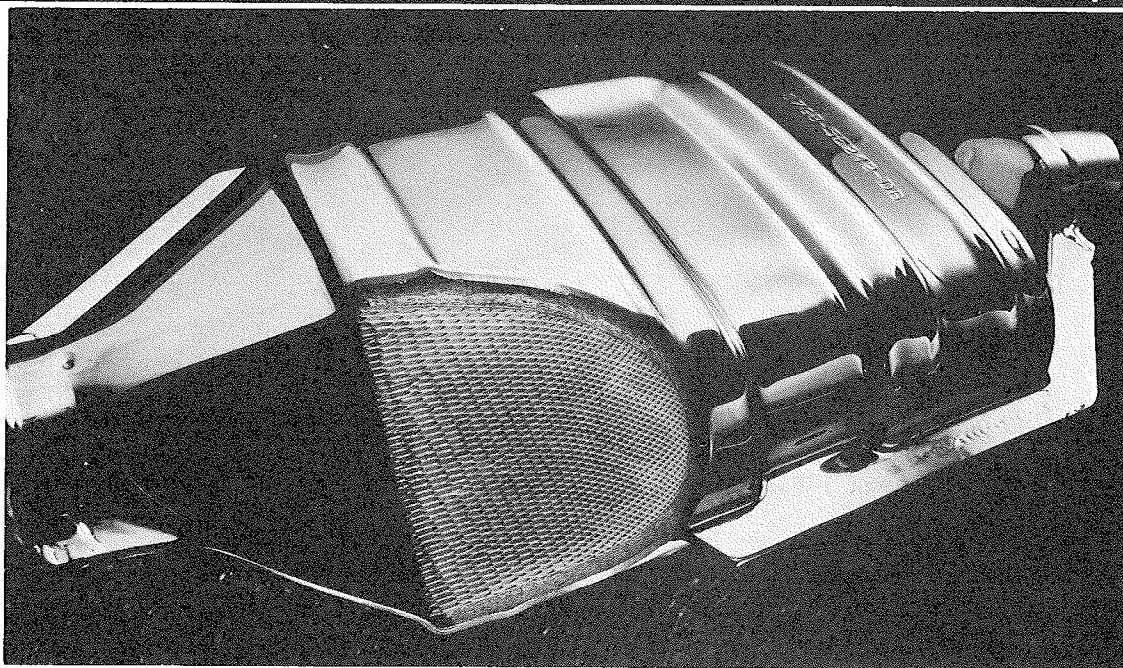


a manufacturing process. Nevertheless, these resources are often swept up in broad definitions—for example, equating wastes with scrap materials—that compromise resource conservation, environmental quality, and the minerals availability potential from secondary recovery, an increasingly important source of metals.

Another trend in the developed world is the growing attention to potential human health effects of exposure to mineral substances. Concerns are voiced about the health risks of such minerals and metals as asbestos, lead, mercury, arsenic, cadmium, nickel, cobalt, copper, chromium, and silica.

Some risk reduction measures put forward in multilateral and bilateral fora would,

in effect, greatly restrict or even ban the transport and use of certain minerals, metals, and their waste products.



*Catalytic converter photo courtesy of the Johnson Matthey Corporation*

The issue turns on assessing risk. But assigning risk greatly depends on what methodology is used, what levels are measured, what the experimental evidence is, what inferences are made, and how costs are computed. In the extreme, if one pushes zero risk exposure as the standard, every element in the periodic table would be a health problem. Needless to say, decisions about acceptable levels of risk to human health from mineral compounds have major implications with respect to what can be mined, moved, and used in the next century. We need to pursue the best scientific evidence and dispassionately analyze it, not in isolation but in the whole context of human needs. Reason and balance must be fostered in such complex, volatile issues.

Pursuit of environmental quality will require more minerals to create the technologies that cleanse, rinse, and purify our air, water, and soils and prevent or minimize contaminants from reaching

them. For instance, reducing motor vehicle emissions requires the catalytic properties of platinum, palladium,

and rhodium reacting in an iron and steel device to remove the harmful gases. Air quality improvements over the last two decades in the U.S. are owed to the unique properties and characteristics of platinum group metals (PGMs). New tougher emission standards are being imposed around the world based on the successful catalytic converter technology, placing additional demands to locate, use, and recycle PGMs. Another "green" metal is zinc whose safe, beneficial uses are increasingly recognized as the great protector against corrosion. Growing world population and rising standards of living will push zinc demand up for all manner of galvanizing needs.

Losses through wear, corrosion, and breakage, for example, exceed \$500 billion a year in the U.S. Not only are there maintenance, repair, replacement, and downtime costs but there is a cost to the environment when contaminants are released into waters and soils. Fortunately,

we are creating amazing new engineered materials that significantly reduce wear, corrosion, fatigue, and breakage, as well as energy consumption. These new performance materials such as composites, laminates, plastics, ceramics, alloys, and a variety of coatings have increased strength, flexibility, service life, and energy efficiency. They are being rapidly applied to a growing range of functions. In some cases, they compete with or may replace traditional metals. Yet no matter what specific purpose or need they are designed to meet, these new materials require new or different mineral elements in their composition to give them their desired properties.

The computer revolution which is pushing so many new frontiers is also making the minerals industry cleaner and safer through automation and process controls. Yet computer technology with its vast potential for good requires an increasing supply of rare mineral elements: beryllium, gallium, germanium, lithium, quartz crystals, rare earths, rhenium, yttrium, strontium, tantalum, selenium, and silicon.

Likewise, building new infrastructure in developing nations and rebuilding a rapidly deteriorating one in the developed world will demand ever more tonnages of construction materials, like sand, gravel, stone, and asphalt, in addition to steel and other structural metals. To build the roads, highways, bridges, ports, airports, schools, hospitals, waste treatment facilities, and water systems, we will have to mine and quarry at unprecedented rates.

Similarly, low temperature superconductors, which convey electrical current with very little resistance, promise to revolutionize transportation, communication, and

energy generation, transmission, and storage, making these applications safer, cleaner, and more efficient. Here again, perhaps the most important technology of the next century will require enabling materials, such as ceramics and rare earths, that we will have to find and produce in vast new quantities.

Many see society moving from gasoline-powered vehicles to emission-free, electric vehicles with large storage batteries replacing the internal combustion engine. Yet, whatever the next generation of battery technology may prove to be, it will depend on new mineral combinations, which may in time pose similar concerns about supply, price, and availability to those which we have experienced with petroleum. Such a battery-powered fleet would also carry significant new demands for electrical power generation. How and where that energy may come adds an interesting new dimension to next century's energy strategies.

In 1910, when the U.S. Bureau of Mines was created, President Theodore Roosevelt struck the chord of sustainable development when he said: "A nation behaves well, if it treats natural resources as assets it must turn over to the next generation increased, not impaired, in value." We too must look to the future with an eye to leaving our descendants a better natural world and an improved socioeconomic political environment—both of which require being wise stewards of the earth's mineral endowment. Likewise, protecting and enhancing valuable natural resources, as well as developing them in an environmentally sound manner, are not mutually exclusive goals. We can and must pursue both.

*Reprinted from the U.S. Bureau of Mines' February 1993 issue of Minerals Today.*

## Getting better by getting involved

Or, to put it more formally, Continuous Improvement (CI) through employee participation. That seemed to be the common theme in the two keynote addresses presented at Mines Accident Prevention Association of Ontario's Mining Health and Safety Conference in Toronto this past May. They were presented by Warren Holmes, President and General Manager of Falconbridge's Kidd Creek Division, and Harry Hynd, Director of District 6 of the United Steelworkers of America.

Holmes began by outlining recent changes at Kidd Creek. Long an industry leader in safety, Kidd Creek decided that it could only maintain its lead over our rapidly-improving industry by departing from some traditional approaches and moving towards the Total Quality Management (TQM) model. The changes involved included expanding one traditional approach that had proven effective—Loss Control. Other changes were more in keeping with TQM concepts, such as flattening the organizational structure, more emphasis on training, and increasing employee involvement.

Elected worker representatives replaced staff safety personnel. The role of the Joint Health and Safety Committee was expanded. Employee input was sought through two Internal Responsibility System surveys and the results acted upon. CI Teams with worker participation were set up to improve all aspects of the operation. Idea Awards were established, with "dramatic positive results," according to Holmes.

Through all the changes, safety was "the #1 priority," according to Holmes, because safety and efficiency are intimately linked, and because safety is the easiest way to develop involvement as it's everyone's com-

mon interest. Involvement is the key: "Allow people a role and they will work to achieve the desired result. The CI concepts apply not only to safety, but to the total operation."

Harry Hynd also stressed the importance of meaningful worker participation. He noted that all advice on investing money emphasizes the importance of having complete and accurate information and not accepting any advice on faith. On the job, workers are investing something much more important than just money—i.e., their health and safety. Therefore they need information and the right to participate in decisions that affect their working environment.

Hynd was careful to point out that he is not talking about "consulting" workers about decisions that have already been made—those days "are gone forever." He stated that "Workers have to be given the power to do more than make recommendations if there is ever going to be meaningful cooperation in the workplace." Workers should be regarded as responsible partners with valuable contributions to make based on their knowledge of operations and their commitment to improvements. He assured management members of the audience that workers are just as interested as they in keeping the business competitive and profitable—after all, it's their jobs at stake. Like Holmes, he sees safety and productivity not as incompatible, but as two sides of the same coin.

While "not promising a love-in on every issue," Hynd stated that the Steelworkers' bottom line is "safer and healthier workplaces" and that they are willing to work "in a spirit of cooperation" with those employers who share that goal and accept them as partners.

*Reprinted from the summer 1993 issue of MAPAO's safety news*

## Avoiding bumps on the safety highway

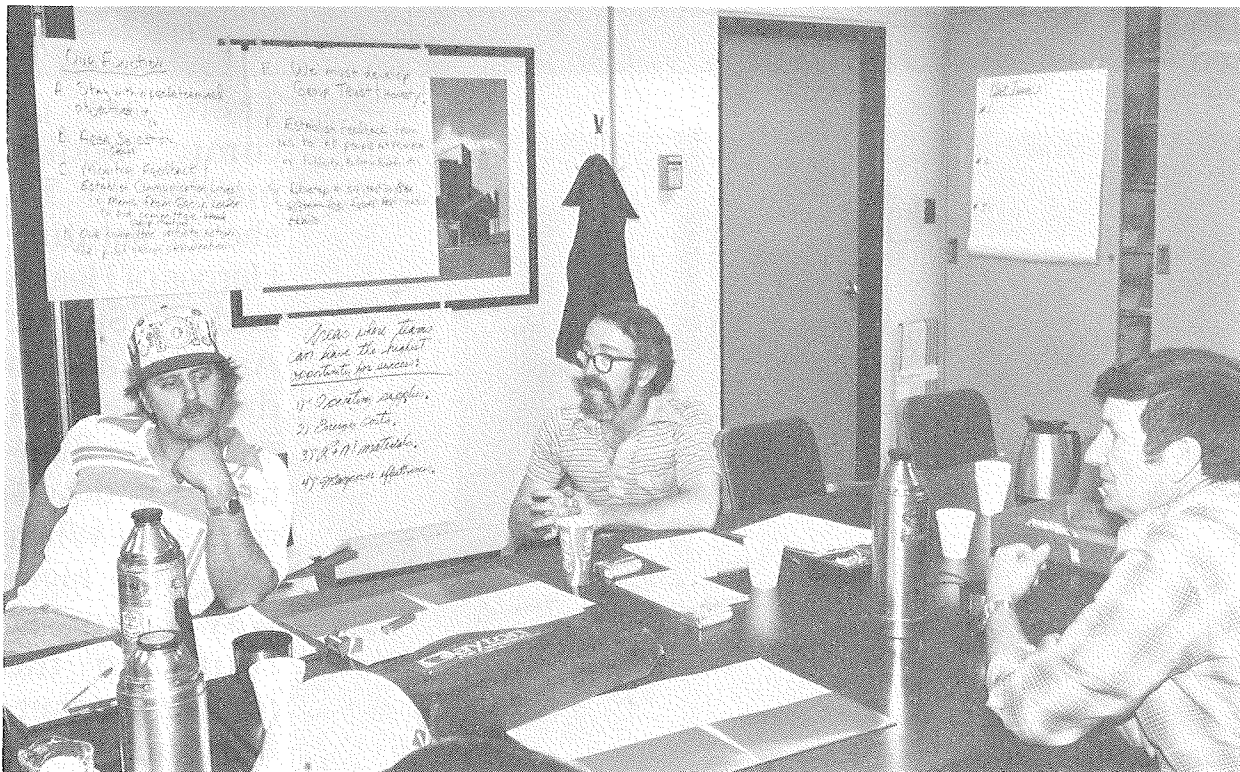
by David T. Couillard, Executive Committee Member

Two recent occurrences have reminded me of the challenges that still exist in our efforts to create accident-free workplaces.

In the first incident, a trainer of production truck operators at an iron mine received a telephone call at home late one evening. The call was from a truck driver who had completed her training a few days previ-

nical college. A road construction crew was working in the opposite traffic lanes. Most conspicuous was a front-end loader that seemed to be moving at a fairly fast speed, with a bare-headed worker standing tall in the bucket, apparently enjoying the ride.

These two events are examples of behavioral "bumps" on the road to safety. I



Three members of a steering committee represent team approach to problem solving

ously, and had been assigned to operate a truck solo for the first time on the night shift. All her training had taken place during the day: night conditions were different, disorienting, and a little scary. She didn't feel confident about operating the truck at night without more guidance from her trainer. Could he help her?

I witnessed the second occurrence myself during a drive to a meeting at a tech-

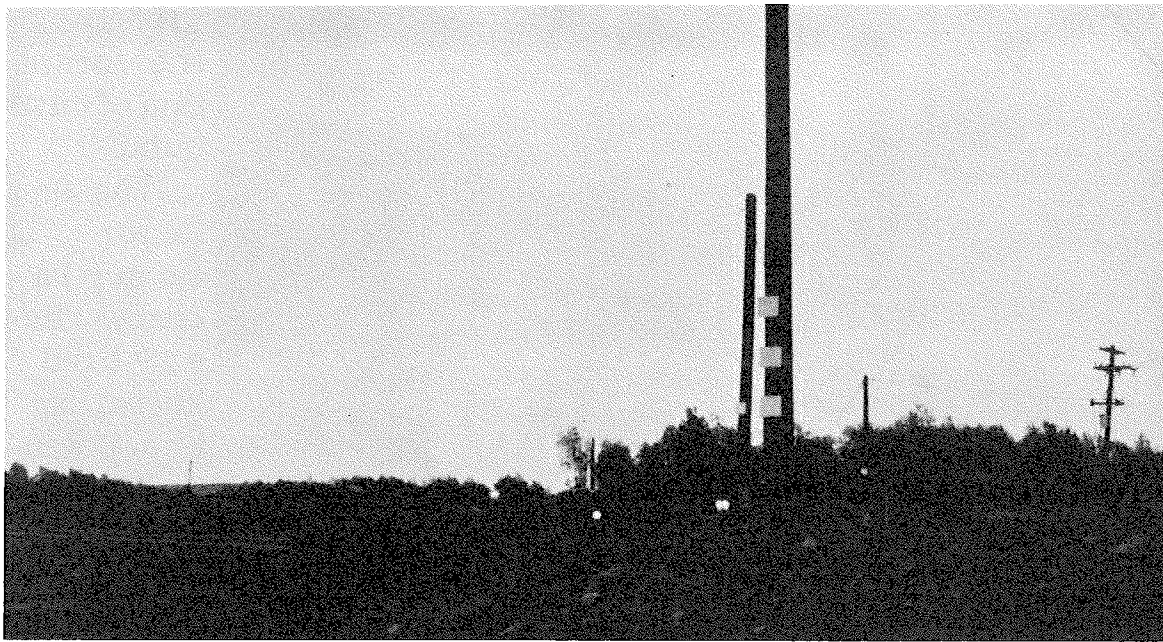
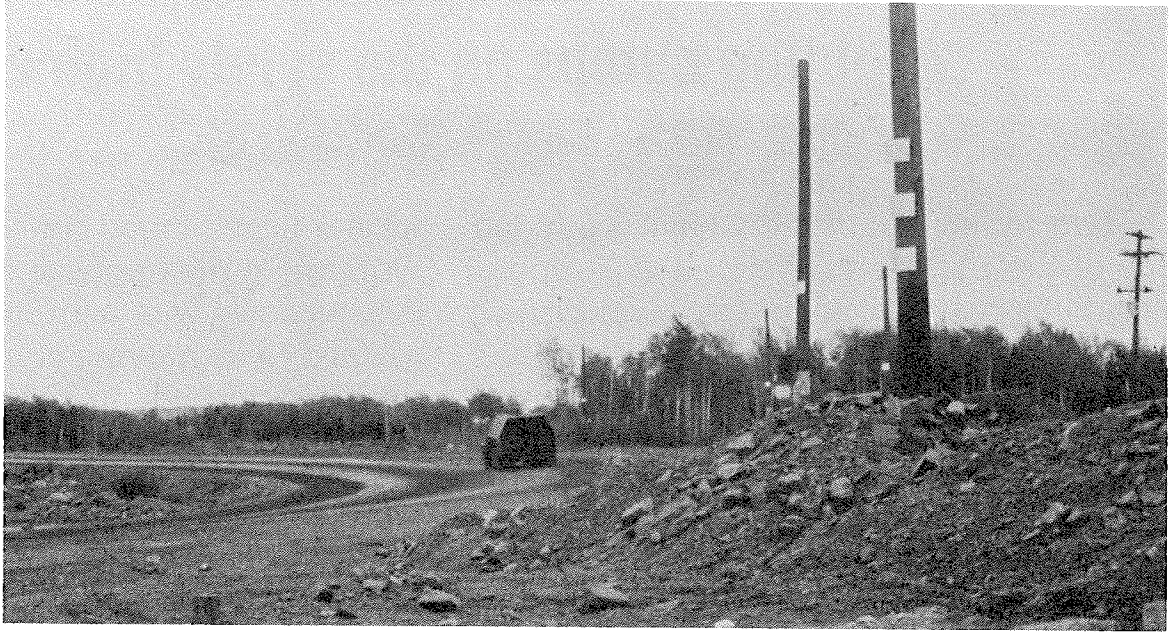
I believe that three factors contribute greatly to the formation of these bumps.

The first factor is **complacency**. "Everybody knows that" is a potentially fatal assumption for a trainer. As a **baby boomer**

born in 1949, I felt a simultaneous sense of shock and sudden insight a couple of years ago when I realized there were adults in the work force who couldn't remember the sixties. How can I expect a 22-year-old to share my frame of reference, interests, or knowledge? And how can a trainer of truck drivers expect skills learned exclusively in the daylight to be applied by an inexperienced driver at night, without help?



The second factor is **short-sightedness**. The mine where the night driving incident occurred had instituted night shift training of equipment operators back in the seventies, but layoffs in the early eighties had resulted in no inexperienced



*Upper photo is of a haulage road during daylight and the same road at night, northern Minn.*

operators left to train. Apprenticeship programs for skilled trades, training department staff, and thirty years of training documentation were simply discarded. A few years later, when many veteran employees retired, the company had to essentially reinvent the wheel as it reestablished training programs, paying a price for its loss of institutional memory.

The third factor is **cultural sabotage**.

There are no comic books, movies, or TV shows saluting Heroes of Health and Safety. America adores daredevils and warriors. Risk-taking is downright sexy. When I saw the highway worker riding in the loader bucket, his pose reminded me of

General Patton standing in a tank, speeding off to battle. Who knows what fantasies were actually dancing in the worker's head at that moment? Whatever they were, they undoubtedly did not include an image of the hero losing his balance, falling beneath the tires, and getting crushed, his blood and guts splattering all over the road. Yet past experience tells us that fatal accidents

are fairly common consequences of bucket riding.

Another aspect of popular culture that leads to unsafe behavior is the expectation that rookies must "pay their dues." Seniority rules and past practices at many mines often cause inexperienced workers to operate the oldest equipment to perform the least desirable jobs, in often dangerous locations, on night shifts.

The new truck driver who called her trainer for help was in a typical "dues paying" situation. Fortunately, the trainer went to the mine on his own time to guide her for a couple of hours until both driver and trainer were confident that she could perform the job at night.

As the trainer's actions demonstrate, there are many people in the work force today who have shed the old "Welcome to the NFL, Kid" mentality toward inexperienced workers. As more and more organizations commit themselves to team building to achieve continuous improvement, failing to help new people learn their jobs is seen as detrimental to the well-being of everyone else. To make it easier for the trainer to follow his natural desire to do the right thing, his managers—rediscovering the wisdom of a forgotten policy—have instructed him to schedule future training on night shifts.

But what about people who take rides on front-end loader buckets and commit other flagrantly unsafe acts? What can be done to change their behavior?

Unsafe acts are usually symptoms of flawed management. They are most apparent at operations where safety rules are either not enforced or nonexistent, where training is an exercise in perpetuating reck-

lessness, and where the whole idea of "safety" is seen as an abstract concept unrelated to real work. Bucket riders can be transformed into safe workers only when their bosses learn that each dollar spent on safety is an investment rather than a cost.

On the same day I saw the bucket rider, I encountered evidence of just such a transformation in fellow members of an advisory committee for the technical college's mine safety and health training program. Several of the members were emphatic in their support for expensive, customized training to meet the needs of each mine. At another meeting at the same school back in 1978, members of a previous advisory committee had berated MSHA for not immediately distributing free, generic lesson plans so that the industry could more easily comply with Part 48 training requirements, which were at that time just going into effect.

Organizations that train their people for continuous improvement, and not just for compliance, are helping to ensure a smooth ride on the safety highway. Of course, many organizations still have a lot of bumps left, and the task of removing them can appear to be overwhelming.

The day after I witnessed the General Patton routine on the loader bucket, I called the regional safety officer for the State Department of Transportation to report the incident. Since the bucket rider's employer is under contract to the state, perhaps my small action will contribute to another transformation some day. What all of us need to remember is that complaining about all there is to do never gets anything done. But if we all just do what we can, change will come. We may not see perfection, but we will see progress, one day at a time.

# Conveyor safety

*By: Marino Franchini, Program Supervisor, NY State Department of Labor, Albany, NY*

If you work on or near a conveyor, you might not often stop to wonder what your plant would do without such a convenience. In fact, you may just take the conveyor for granted. But whether the conveyor is something new for you or you've worked around one for years, you must constantly be aware of the dangers that exist when this device is in use. Make sure you always remember:

## **Wear the correct type of clothes and safety gear**

You should wear close-fitting clothes that won't get caught in the moving parts of the conveyor, as well as the required personal protective equipment for your particular job. For example, if the work area is dusty, wear a dust respirator. If there's a chance that a heavy item might drop off the conveyor onto your foot, then wear safety shoes. Also, long hair must be restrained, just as when working around any other piece of moving equipment. Ask your supervisor what to wear if you are not sure.

It's not unusual for materials to fall off and hit someone, unless you take precautions against it. Place all items safely and securely on the conveyor. In addition, be sure all guards are always in place.

## **Before repairing or inspecting the conveyor...**

Power should be shut off and the conveyor locked out and tagged before in-

spection or repairs are made. Ask your supervisor about any other special procedures your department might have so that in the event of a jam, you know what to do and how to do it safely.

## **Proper maintenance and inspection procedures**

Follow your department's procedures that will usually include:

- Look for and report any signs of excessive wear.
- Regularly inspect brakes, backstops, anti-runaway devices, and overload releases.
- Make sure safety guards are in place and operating properly.
- Keep the area around the stop/start switches clear.
- Lubricate machine parts according to the manufacturer's directions.

## **Avoid these common problems**

- Climbing over the conveyor
- Working under the conveyor
- Removing safety guards to speed up repairs
- Ignoring lockout/tag procedures for minor repairs
- Bypassing or disconnecting emergency stop buttons
- "Forgetting" to replace guards after maintenance or repairs have been completed

*Reprinted from the June 1993 issue of Dateline: MSHA.*

# Protect your back... **NEVER** lift and twist!



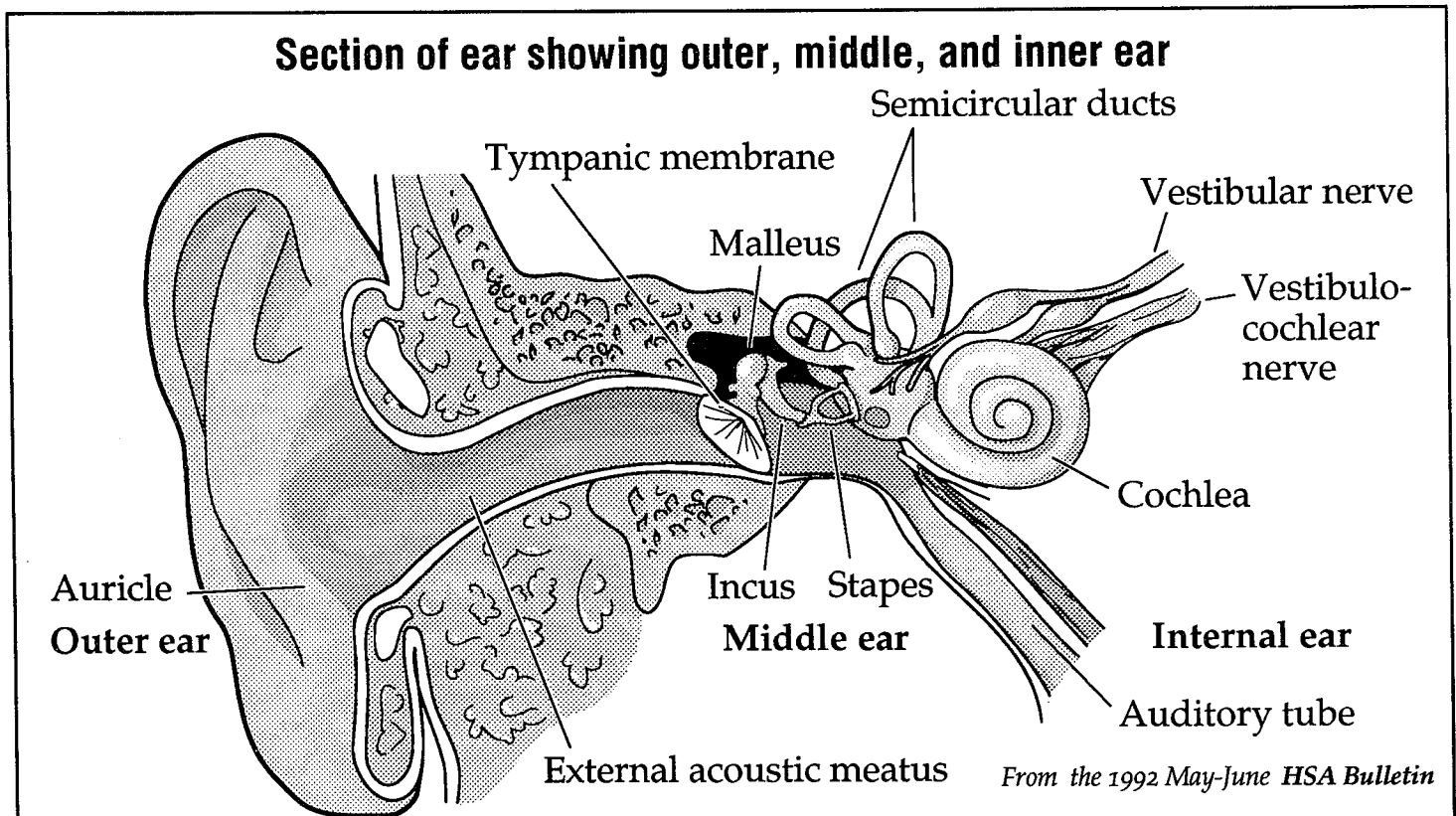
## Hearing protector effectiveness

by James R. Petrie, MSHA Metal and Nonmetal

Studies conducted by the Mine Safety and Health Administration (MSHA) and other researchers have found that the noise reduction (attenuation) provided by hearing protectors in the workplace

cannot be reliably predicted and is often significantly less than that indicated by the hearing protector manufacturer.

Since 1979, hearing protector manufacturers have been required, under



### Anatomy of an ear

Through an exquisite arrangement of tiny bone structures behind the eardrum, air vibrations (soundless noise at this point) are turned into wave-like motions in the fluid-filled, snail-shaped cochlea. The liquid passes the motion along to tiny hairlike nerve endings. These hairlike cells change the motion into electrical energy, sending signals to the hearing center of the brain, which interprets the sound.

Loss of hearing is the result of subtle and progressive destruction of the sensory cells in the cochlea—the auditory organ. In a sense, they simply get tired of all that waving around and quit.

Once damaged, these sensory cells cannot repair themselves, nor can they be restored medically. This type of hearing loss is thus irreversible and increases in severity with continued exposure to noise.

Environmental Protection Agency regulations, to test hearing protectors and label them with a Noise Reduction Rating (NRR).

Typical NRR values range from 6 to 33 decibels (dB). The NRR is intended to approximate the amount of noise reduction a hearing protector provides. Testing to determine the NRR, however, is conducted under laboratory conditions, which often bear little resemblance to conditions found in the workplace.

MSHA has conducted studies which focused on measuring the attenuation of several different types of earmuffs under actual mining conditions. Miniature microphones were used to simultaneously measure the noise levels inside and outside the earmuff. The NRR's for these earmuffs ranged from 14 to 28 dB, while the actual noise reduction, as measured by MSHA, varied widely, ranging from -6 dB (amplification of the noise) to 36 dB. Mean noise reduction measured 14.1 dB. However, at the 95% lower confidence limit (mean less two standard deviation), there was a minimum ensured noise reduction of only 2 to 3 dB.

MSHA's findings are consistent with those of other researchers, including one hearing protector manufacturer who suggested that an overall attenuation value of 5 dB be used for typical mining noises. Studies of earplugs, conducted by the National Institute for Occupational Safety and Health, have found similar differences between the NRR and the noise reduction achieved in the workplace.

Some individuals and organizations have suggested derating the NRR by

50% to account for real-world attenuation. The results of MSHA studies indicate, however, that the noise reduction determined by using such a derating factor correlates poorly with the attenuation actually achieved. MSHA has found that a closer correlation can be achieved when the frequency spectrum of the noise-generating equipment is considered along with the NRR.

An American National Standards Institute workgroup has been established to investigate hearing protector attenuation and to develop more meaningful rating criteria. Until such criteria are developed, it is important to keep in mind that the NRR may neither accurately indicate the protection afforded, nor provide a sound basis for comparing the relative effectiveness of one protector versus another.

Despite these shortcomings, employers should continue to encourage the use of hearing protectors. Although the amount of noise reduction hearing protectors provide under actual use cannot be quantified, the use of hearing protectors is undoubtedly beneficial.

The noise reduction achieved can be maximized by providing hearing protectors that are properly fitted and comfortable. Educating employees regarding the harmful effects of noise may also result in more conscientious use of hearing protectors—and thereby improve the protection offered.

Lastly, given the current limitations in determining hearing protector effectiveness, priority should continue to be placed on reducing harmful noise levels through the use of feasible engineering and administrative controls.

## Behavior affects a safety program

*By John W. Collins, Coal Mine Inspection Supervisor for the Mine Safety and Health Administration*

According to Webster's Dictionary, behavior, simply defined, is the way in which something behaves or the manner of conducting oneself. Employee behavior is addressed in several ways in all successful safety programs. There are several methods of observing employee behavior in order to attain that successful safety program. Three methods will be listed and discussed here.

One effective method is conducting audit inspections of the physical barriers existing in the workplace. Most safety professionals in doing this will utilize the OSHA standards as a guideline to ensure that the physical barriers are in place to ensure a safe workplace for the employees. By thoroughly examining the employees' environment for unsafe conditions and correcting those conditions, the hazards that the employee will normally be exposed to and associated with will be eliminated. This inspection will directly affect the way the employees will conduct themselves, as related to the physical aspects of their workplace.

Another effective method is observing the attitudinal state of the employees. As Robert Mager noted, attitude toward the workplace is molded by the conditions that surround the subject, the consequences of coming into contact with the subject, and the way that others react toward the subject. By using this method, it can easily be seen that

employee behavior is influenced by the things we do and by the things we say.

The third effective method is observing the motivational state of the employees. It is important for safety professionals to determine how the employees view the company's safety program. The way that the employees see their company directly influences their behavior on the job. Management must know what the climate between the management group and the labor group is, to be effective. The safety professional should know the factors influencing the workers, and deal with those factors one by one. As Dan Peterson noted, several things determine the workers' level of motivation.

There are several factors that affect employees' behavior, but there are some types of behavior that can be harmful to a safety program. It is important to be



able to recognize the harmful behavior and to maintain a successful safety program and hazard free environment. On discussing employee behavior, perhaps a brief discussion of the harmful behavior would be in order. The reinforcement of unsafe behavior can have a dramatic effect on a safety program. This type of behavior is bred from the following:

1. The acceptance of unsafe acts by fellow workers. The macho thing to do.
2. Unsafe acts make real sense to employees. Workers have performed an unsafe act for a number of years and nothing has happened yet.
3. Unsafe acts give the workers personal satisfaction.
4. Unsafe acts result from shortcuts due to increased demands to produce.

Another example of harmful behavior would be management's misdirected safety program. Employees do not always accept management's view of what are actually safe acts according to their safety manuals. In management's attempt to change employee behavior

towards safety, they may neglect the very personal gains which workers actually enjoy from their unsafe acts. A misguided safety program can at times actually suppress the personal assertiveness of the individual worker.

Another area of harmful behavior could result from management's concepts about safety. It is known that management in some industries places priorities on production and safety. In this instance, safety always loses. Management at the top shows no concern for safety, as can be seen by the amount of effort made in establishing successful safety programs. These types of safety programs reflect little employee concern, little or no training, poor safety attitude, one-way communication, etc.

Dealing with behavior is a very important part of the successful safety program. Management's ability to deal with behavior within the company's internal structure could determine whether or not that company continues to be solvent.

The safety programs in the future will mark the end of bureaucracy, show changes in managerial behavior, show changes in worker behavior, and dawn the new era of future programming to pave the way for the risk-free workplace.

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# Holmes Safety Association

## Monthly safety topic



### Fatal machinery accident

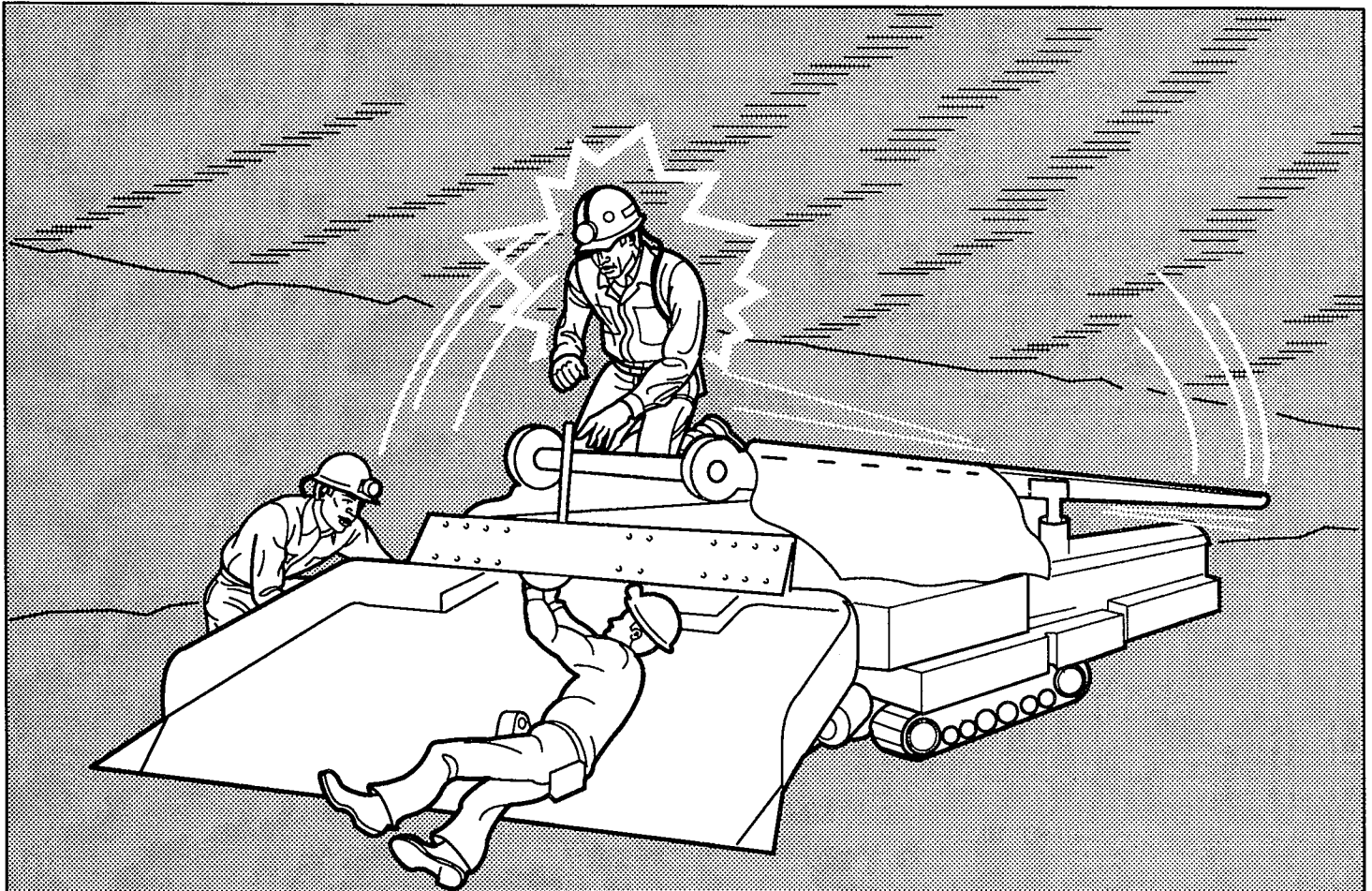
**GENERAL INFORMATION:** A 33-year-old underground maintenance technician, with 14 years of mining experience—the last two in maintenance—was fatally injured when he was pinned against the mine roof by the conveyor discharge assembly on the continuous miner. He and two other employees were replacing the gathering head on the miner at an underground potash operation.

**DESCRIPTION OF ACCIDENT:** The victim reported for work at his assigned time of 7:00 a.m. By about 7:15 a.m. he was underground. The Maintenance Foreman told the victim and two other men to replace the plow on the Jeffrey 120-L continuous miner. The victim, a senior underground maintenance technician (SUMT), and an underground maintenance technician (UMT) proceeded to the working face, where the miner was located. It was the first time any of them had attempted to change out a plow on this model of continuous miner.

The first task they performed was to “high top” the roof to allow easier access to the cutter head. The crew then unbolted and removed the cutter head and placed it in the left cross cut.

The UMT drove the miner down the entry to a point near where a replacement plow had been left prior to this shift. They began removing the plow from the miner. The right side pin of the auger jack cylinder was removed from the eyelet on the miner to allow more clearance. The plow was jiggled to loosen the

connections, and they attempted to push the plow off the miner, but it wouldn't separate. They decided to move the front end of the boom out of the way so they could see what was holding the plow on. They discovered the plow was fastened to the miner by two pins. To move the boom and get access to the pins from the inside of the bracket, they used the boom lift cylinders. By alternately raising and lowering, and jiggling the boom, they got it to lift upward several inches at the nose of the boom. The UMT and the SUMT began to easily but slowly drive the left pin out. The victim climbed up on the nose of the boom and said “Let me hit it from up here.” The victim drove out the left pin and started on the right pin. When the last pin was driven out, the plow was clear. Although no one sensed any movement, the plow probably shifted slightly. Apparently the edge of the boom pin flange was jammed against the plow pin flange. When the plow shifted, it released the boom. The boom was no longer resting on the stops at the end of the miner frame because the lifting cylinders had actually been raised to about 90% of their maximum extension. The rear of the boom was overbalanced on the only points of suspension—the lifting cylinder pivots. The rear dropped rapidly and allowed the front to swing up against the roof. The victim had no time to get off the nose of the boom and was pinned against the roof in a kneeling position. Help was rapidly summoned and came from many areas of the mine.



Metal and Nonmetal mine fatalities to date—thru 08-31-93

Type	1989		1990		1991		1992		1993	
	UG	S	UG	S	UG	S	UG	S	UG	S
Electrical	1	1	0	2	0	7	0	3	0	1
Fall of roof/back	3	0	1	0	1	0	4	0	2	0
Haulage	1	6	1	15	0	6	1	10	1	6
Machinery	0	4	0	7	1	1	0	5	1	5
Other	4	15	3	10	4	9	0	6	7	7
<b>Total</b>	<b>9</b>	<b>26</b>	<b>5</b>	<b>34</b>	<b>6</b>	<b>23</b>	<b>5</b>	<b>24</b>	<b>11</b>	<b>19</b>

The process of jacking and timbering the boom was going too slowly and a small wheel-mounted crane—the Brute—was sent for. During the rescue operation the victim exhibited no signs of life. About 2:35 p.m. the Brute was used to finish lifting the end of the boom to remove the victim.

The county Medical Examiner arrived about 3:50 p.m. and pronounced him dead. The cause of death was reportedly a ruptured

aorta due to severe compression of the chest.

**CONCLUSIONS:** The direct cause of the accident was that the conveyor boom of the continuous miner was not secured, which allowed the rear of the boom to fall.

Contributing to the accident was an apparent lack of training to perform this maintenance job.

## Safety misconceptions may cost a child's life

By Jayne O'Donnell, Special to The Express

**Myth:** *In a low-speed car crash, an adult can protect a baby by holding onto him or her.*

**Fact:** Most car crashes are unexpected, allowing less than half a second to react. The reaction time of most adults is three-quarters of a second, or one-quarter of a second too slow. Besides, even if the adult could react quickly enough, a 10-pound child in a 30-mile-per hour crash would be ripped from the adult's arms with a force of 200 pounds.

**Myth:** *If there aren't enough safety belts in the car, it's OK for two children to share a belt.*

**Fact:** Two children should never share a belt. The impact of the crash might force one child to crush or strike the other, causing more severe injury.

**Myth:** *Even if a child safety seat has been in a crash, it can be used again as long as there are no visible*

*cracks in it.*

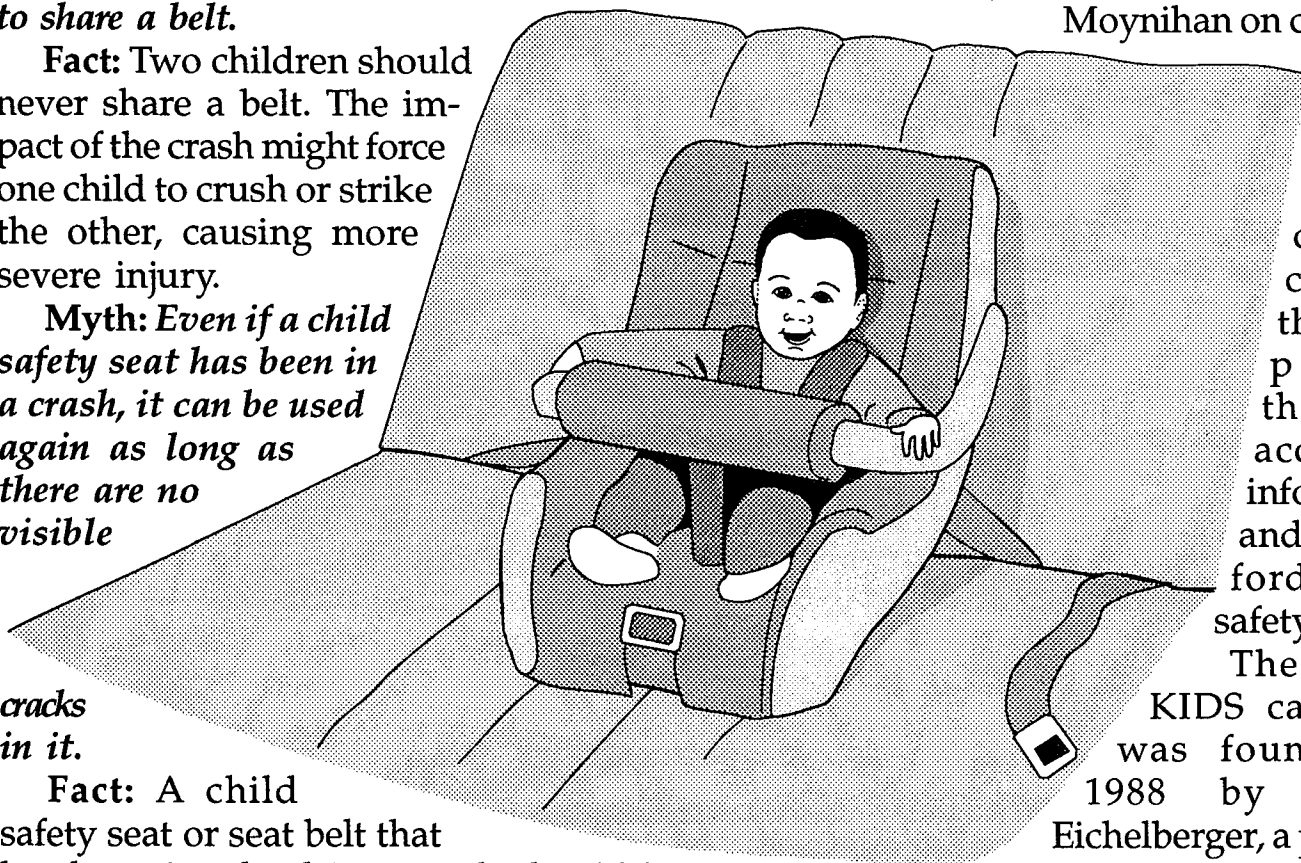
**Fact:** A child safety seat or seat belt that has been involved in a crash should be replaced. The seat or safety belt may have hidden damage that could cause it to fail in another crash.

These are just a few of the misconceptions about child safety in cars that have to be cleared up for even the most contentious parents. And as media director and acting executive director of the National SAFE KIDS Campaign in Washington, D.C., Kathryn Kincaid spends much of her time shattering myths. It can make for frustrating work.

"It really irks me to see people drive expensive cars with parents holding their children in the front seat," says Kincaid, who previously worked for Senator Pat Moynihan on child and

welfare issues. "Especially because these are people that have access to information and can afford child safety seats."

The SAFE KIDS campaign was founded in 1988 by Martin Eichelberger, a pediatric surgeon and director of trauma services at the Children's National Medical Center in Washington, D.C. As head of trauma services, Eichelberger recognized



that many of the children's injuries he witnessed were preventable. He set up the campaign as a way of disseminating information about injury prevention to parents of all socioeconomic classes. Former Surgeon General C. Everett Koop, whom Eichelberger trained under at Children's Hospital in Philadelphia, is chairman of the campaign.

Injuries—not disease—are the leading killer of kids, claiming 8,000 children each year. Motor vehicles are responsible for 3,200 of those deaths. According to the campaign, 50 percent of the deaths caused by motor vehicles are to occupants, 40 percent to pedestrians and 10 percent of those children killed by cars are on their bicycles.

One thing that Eichelberger and Kincaid have learned is that in addition to being preventable, many children's injuries in cars are far worse than those their larger more developed parents would sustain. For example, because children's heads are often larger than their bodies, Kincaid notes that children often "lead with their heads" when they are unbuckled in a crash.

Infants under 20 pounds should be restrained in safety seats facing the rear of the car. Babies who are improperly restrained in a forward-facing position can sustain serious neck and spinal cord injuries in a crash. Kincaid notes that a 2-month-old baby was brought into Children's Hospital last year after such a crash. The baby's neck injuries were



so serious that he was paralyzed for life.

"It's really tragic, because it's so preventable," says Kincaid.

Booster seats, which are best for children between 40 and 60 pounds and over age 4, help prevent injury to a toddler's spleen, abdomen, and spinal cord. The seats position the children so that belts fit properly.

"Adults have more and bigger internal organs before you get to the spine," says Kincaid. "With children, there's less muscle and fat and the belt just cuts across the tummy."

Kincaid is encouraged by new state laws that mandate helmets for children on bicycles and remains confident that the existing child passenger protection laws, which don't carry stiff penalties, still do the job. She says it's not the "fine that gets people, it's the fact that it's on the book."

According to the campaign most injuries occur because parents and caregivers are unaware of, or misinformed about, preventive measures.

"What we see happening is that most parents try to do the best they can," says Kincaid. "It's heartbreaking to see a parent coming to see their child in the emergency room asking 'what could I have done?'" says Kincaid.

*Reprinted from the August 4, 1993, issue of the Montgomery [County Maryland] Express*

## At Arch of West Virginia, *employee Ideas count!*



*The L-1400 Loader with the new mounting system being used by Bobby Imes, Day Shift Loader Operator, at Wylo Mine.*

As the trend toward larger surface mining equipment continues at Arch of West Virginia (AOWV), unique challenges are presented in the area of safety. This is especially true when it comes to mounting/dismounting of equipment, one of our leading causes of injuries.

Our three leading injury causes for 1992 were slips/trips/falls, 9; mounting/dismounting, 6, and lifting, 6. Obviously, it is imperative that potential problems involving mounting/dismounting large pieces of mining equipment be eliminated before serious injuries occur.

A good example of this proactive safety approach was shown recently at Wylo Mine. As Wylo waited anxiously for the arrival of their L-1400 LeTourneau End Loader in January, Tommy Ellison, Mine Manager, saw that a potential safety problem existed. The operator would have to climb over 15 feet straight up a vertical boarding ladder to reach the cab.

Tommy, working closely with Marathon LeTourneau, designed a

boarding system (see photo) that consists of a short set of steps that can be raised or lowered hydraulically. Two intermediate boarding platforms with a slanted stairway design provide easy access to the operator's cab.

Innovative ideas such as Tommy's will continue to reduce potential hazards for all AOWV employees and help make us the safest, lowest cost and most productive miners in the world.

*Reprinted from the May 1993 issue of the Arch of West Virginia employee newsletter.*

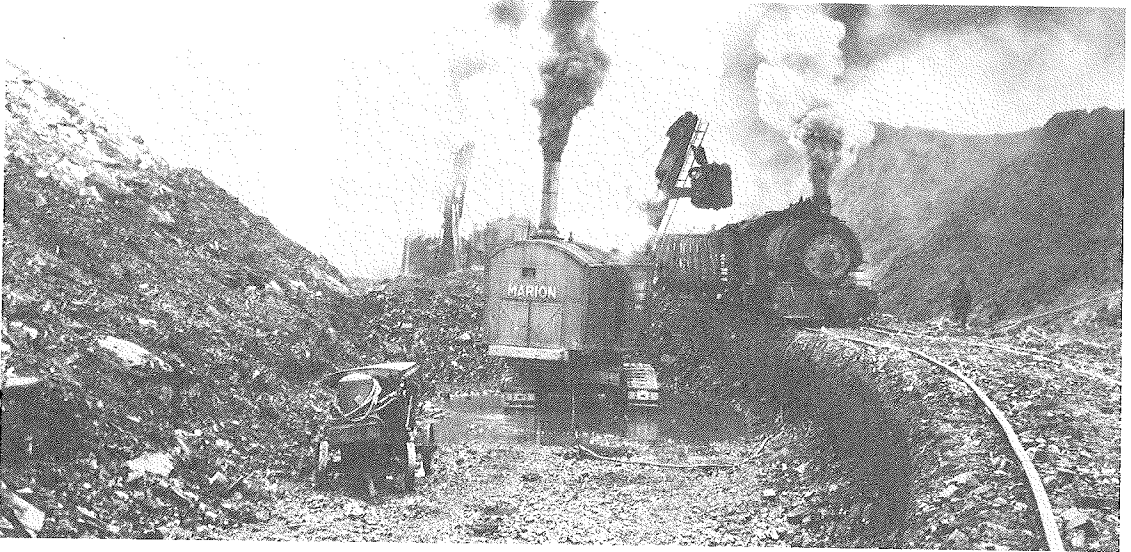
# Coal served original railroads rather than other way around, historian says

By David T. Sibray, *Coal Chronical Contributing Editor*

Which came first—the coal or the railroad?

Many historians have assumed that the railroads penetrated central Appalachia to develop its coal fields.

But, a West Virginia University historian says the



industry was an afterthought.

"The railroads were pushing 'Beyond the mountains to the West,'" says Mike Workman, a post-doctorate fellow at WVU's Institute for the History of Technology and Industrial Archaeology.

"For the most part, they only wanted the coal they used. It wasn't until later that they began to develop the coalfields," Workman said.

Prior to the first railroad through West Virginia—the Baltimore & Ohio, completed in



1852-1853—coal transportation was limited to water on the Great Kanawha, Little Kanawha and Monongahela rivers.

"However, waterway transportation began to die out as trunklines like the B&O, Chesapeake & Ohio and the Norfolk & Western began to provide reliable transportation in the late 1800s," Workman said.

After the railroad had extended the U.S. population westward, the coalfields then began to develop as the need for steel and iron increased.

Workman said the Virginia Railroad that opened Southern West Virginia's

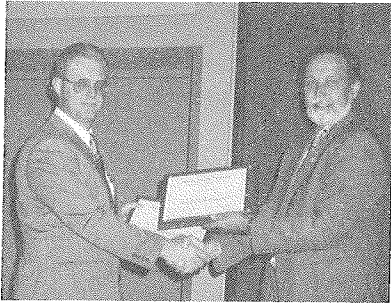
Winding Gulf Field around the turn of the century was one of the first lines built specifically to haul coal.

Though some blame the trunklines for overdeveloping the fields, Workman said different coalfields developed in different ways.

"For instance, in Northern West Virginia, you had a lot more indigenous development," he said. "You had regional, local people building up little railroads that were later purchased by the trunklines."

In the south, the trunklines often developed the secondary railroads themselves, Workman said.

## TXI Cement Company receives safety recognition



*Gus Anderson presenting the first Texas Worker's Compensation Commission Safety Certificate to J. Lynn Davis of TXI Cement Co., Hunter Plant, New Braunfels, Texas.*

TXI Cement Company, Hunter Plant of New Braunfels, Texas, is the first organization whose safety practices are inspected under the Federal Mine Safety and Health Act to receive this comprehensive Texas Workers'

Compensation Commission Safety Certification.

TXI has a comprehensive, proactive safety program keyed to employee involvement with strong management backing. This program has produced over 5-1/2 years of production without a lost-time accident. This excellent safety record is a major contribution to em-



*Gus Anderson presenting the first Texas Workers' Compensation Commission Safety Certificate to Frances Huff of the TXI Cement Co., Hunter Plant.*

ployee morale.

Congratulations to all of the Hunter Plant employees, to Ms. Frances Huff for her leadership, and to Mr. J. Lynn Davis for this outstanding achievement.

Organizations that are interested in participating in the Texas Workers' Compensation Commission Peer Review Safety Program should write to the Texas Workers' Compensation Commission, Division of Workers' Health and Safety, 4000 South Interstate Highway 35, Austin, Texas 78704, or call (512) 440-3923.

*Reprinted from the July-September 1993 issue of the University of Texas Mine Safety and Health Program bulletin Nformation Letter.*

## Wyoming team wins mine rescue competition

A Wyoming team took first place in the Rocky Mountain Invitational mine rescue competition held here last weekend.

Solvay Minerals of Green River was the overall winner in the event sponsored by the Stillwater Mining Company at Nye, Wyoming. The Stillwater Mine team placed third, following the second-place team from Carlsbad, New Mexico.

The competition, officiated by the federal Mine Safety and Health Administration (MSHA), was one of nine regional events in which mine employees are tested for proficiency in mine rescue and first aid techniques.

In addition to the above three winners, teams competing at the Red Lodge meet came

from Washington state and Nevada. Mine personnel took written tests Friday, and on Saturday five teams of seven men and support personnel underwent field testing at Red Lodge Schools football field.

"The purpose of this is to bring skill levels up so we can respond to a real situation," said Travis Thomas of Red Lodge, captain of the Stillwater team. Other members of the local team were Chris Giovetti, Ron Reintsma, Rich Lynde, Eldon Arthun, Dick Campbell, and Fred Cutsinger.

This is the third consecutive year Red Lodge has hosted the regional contest.

*Reprinted with permission from the Wednesday, June 30, 1993, edition of the Red Lodge Montana Carbon County News.*



## The last word...

"Horsepower was a wonderful thing when only horses had it."

"Technology is a way of organizing the universe so that man doesn't have to experience it."

"Imitation is the sincerest form of television."

"Patriotism is the veneration of real estate above principles."

"A conservative is a man who wants the rules changed so that no one can make a pile the way he did."

"What an author likes to write most is his signature on the back of a check."

"Truth is shorter than fiction."

"Copy from one, it's plagiarism; copy from two, it's research."

"Nobody ever committed suicide while reading a good book, but many have while trying to write one."

"The average person thinks he isn't."

"Never mistake motion for action."

"When in doubt, duck."

**NOTICE:** We welcome any materials that you submit to the Holmes Safety Association 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. If you have **ANY** photos of your operations that you can lend us, negatives only please, we will credit you as the source.

**REMINDER:** The District Council Safety Competition for 1993 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

Phone: (703) 235-1400

