



United States Department of Labor

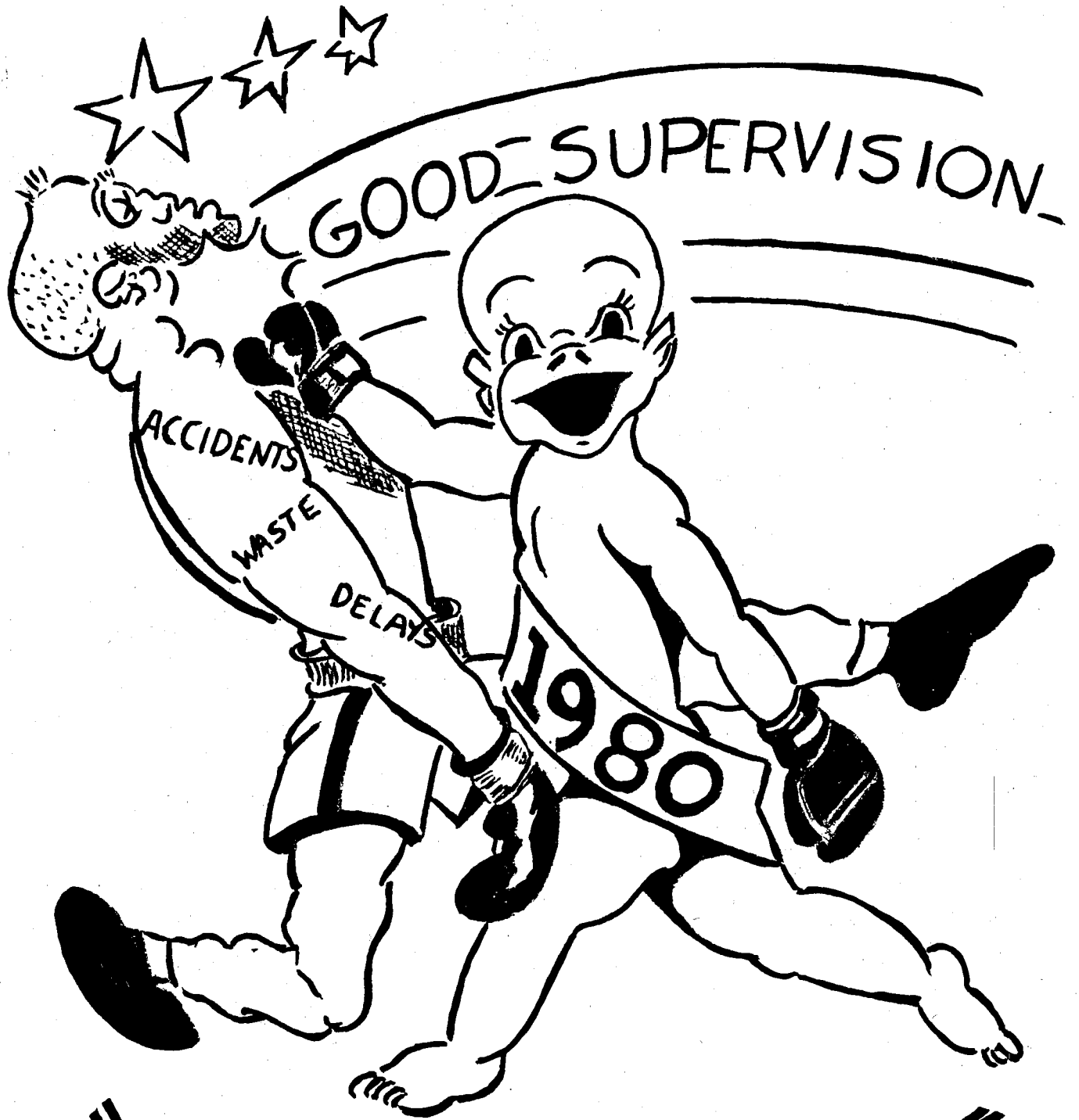
MSHA

Mine Safety and Health Administration

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HOLMES SAFETY ASSOCIATION



"IT GETS RESULTS"



HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

THE ROOF FALL PROBLEM

The greatest danger in coal mining is, and always has been, coal or rock falling from the roof, rib, or face. Year after year, falling materials injure and kill far more miners than do mine fires, explosions, and flooding.

Everyone knows that machinery, blasting, electricity, or a fast-moving trip can be dangerous; but, all these hazards have not produced as many deaths as have roof-fall accidents. One-half or more of all miners killed in underground mines met death from a fall of roof, face, or rib.

Roof falls have no respect for anyone who works underground, whether it be a mine owner, superintendent, section boss, a new miner working his first shift, or even an old timer. Experience won't keep the roof off the back of anyone. Mine supervisors and miners with several years of experience who should be good examples, are also injured and killed. We should profit from the mistakes that have caused the most frequent and serious injuries in the past. These mistakes always involved disregarding one or more of the three "T's" for self-protection from loose roof, namely, Testing the roof; Taking down loose roof; or Timbering weak roof.

Experience has proven that failure to test the roof by sight, hearing, and by touch has been a major factor in numerous roof-fall injuries. In many cases, a casual visual examination was not enough to prevent an injury.

Probably the worst mistake being made, especially by experienced miners, is attempting to "out-guess" roof which is known to be loose. In numerous reported injuries, taking down or supporting the loose area was postponed on the assumption that the roof would hold a few minutes longer, until some small task was done. Our eyes, ears, and sense of touch can only tell us where the roof may be tight or loose, not how long it will stay in place.

Systematic supports will eliminate numerous misjudgments of roof conditions. Unfortunately, the safety effectiveness of standard support methods is not fully appreciated. At least one-half of the fatalities from roof-fall injuries have

(For use in underground coal-mining operations)

been traced to the failure of not following standard roof-control plans.

In setting safety posts or safety jacks, make sure they are the right length, and then, standing under the last row of roof bolts or cross bar, slide the bottom end of timber or jack out five (5) feet, stand it up, set it, and stay back under supported roof. It takes only a minimum amount of time to use this safe method. Practice working under supported roof.

I hope that each of you will remember the three "T's" of good roof-control practices; Testing, Taking down, and Timbering, and never fail to use them in performing your duties. We can and must do our part to reduce the number of roof-fall injuries. Let's each resolve not to be hurt by a roof fall.



JANUARY 1980

Session LXVIII

HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

Federal Mine Safety and Health Act of 1977

Section 303(m) and (n)

Parts 75.314 - 75.315 of the Code of Federal Regulations

Inspection of Idle and Abandoned Areas

Examinations Before Intentional Roof Fall

Sections 303(m) and (n) of the Act set forth the requirements for conducting examinations of idle and abandoned areas and the examination that is required before intentional roof falls are made. These requirements are found in Parts 75.314 and 75.315 of the Code of Federal Regulations.

Section 303(m), Part 75.314 requires an inspection of idle and abandoned areas where methane, oxygen deficiency, and other dangerous conditions could exist. This inspection should be made by a qualified person as soon as possible but not more than 3 hours before other persons may enter or work in such areas. However, qualified persons, such as pumpmen who are required regularly to enter idle or abandoned areas may make examinations for themselves, but not others, if they are trained and qualified in the use of instruments to detect methane and oxygen deficiency. Idle and abandoned areas of a mine are ordinarily not maintained as carefully as active working places; therefore, conditions in these areas are likely to deteriorate rapidly, and the areas may contain numerous hazards such as accumulated gas and bad roof.

Rather frequently, pumps are installed in idle areas, and materials are recovered from abandoned or idle areas, making it necessary for workers to enter and perhaps work there for brief periods. Even persons who are well trained and qualified shall enter abandoned or idle areas very cautiously. Oxygen-deficient air can be encountered in poorly maintained and ventilated areas. There are a number of recorded incidents of miners succumbing to oxygen-deficiency areas. Of course, the roof conditions may be of such nature that the mere sound of activity in a long-abandoned area may cause the roof to fall. Before entering such areas, be sure they have been examined by a certified person.

(For use in underground coal-mining operations)

Section (n) or Part 75.315 requires that immediately before an intentional roof fall is made, the pillar workings shall be examined by a qualified person to ascertain whether methane is present. The Act prohibits intentionally inducing such falls if 1.0 percent or more of methane is present. When a pillar fall is made, the force and mass of the fall causes the air in the area to be moved into and from other areas and, if the air contains explosive gas, it could quite easily create a dangerous situation. There have been a number of ignitions and explosions, causing quite a few injuries that have been attributed to friction caused by roof falls when methane was present or released at the time of the fall. This section of the Act applies when pillar stumps are removed, when the roof is drilled and blasted, or when posts are removed to induce an intentional roof fall.

This provision of the Law is not intended to require an examiner to be in an unsafe area, such as unsupported or broken roof along a pillar line. The examination should include enough of the area to assure that no accumulation of methane is present on the pillar line before the fall is made.



U.S. Department of Labor
Mine Safety and Health Administration
Metal and Nonmetal Mine Safety and Health Activity

date November 23, 1979

SPECIAL FATALGRAM

TWELVE ELECTRICAL FATALITIES HAVE OCCURRED IN METAL AND NONMETAL MINES FROM FEBRUARY THROUGH OCTOBER 1979, WITH FOUR HAPPENING IN SEPTEMBER ALONE.

SIX OF THE ACCIDENTS RESULTED FROM FAILURES TO DEENERGIZE POWER WHILE WORKING ON EQUIPMENT. SOME OF THESE FAILURES WERE DUE TO LACK OF INFORMATION ABOUT THE EXISTENCE OF CERTAIN CONDUCTORS OR CONNECTIONS, RATHER THAN PURE NEGLIGENCE.

THREE WERE DUE TO CONTACTING HIGH VOLTAGE POWER LINES.

THE REMAINING THREE WERE ASSOCIATED WITH INADEQUATE OR OLD, WORN INSULATION.

ALL WERE PREVENTABLE AND WOULD NOT HAVE HAPPENED HAD ALL APPLICABLE METAL AND NONMETAL SAFETY STANDARDS BEEN FULLY COMPLIED WITH.

1. DRIVER DUMPED LOAD AND DROVE INTO HIGH VOLTAGE TRANSMISSION LINE BEFORE LOWERING TRUCK BED.
2. VICTIM REPLACED A RELAY; THEN WAS ELECTROCUTED CONTACTING A BARE WIRE OF ANOTHER CIRCUIT.
3. ELECTROCUTED BY DEFECTIVE WIRING OF SUMP PUMP IN WATER WHERE HE WAS STANDING.
4. VICTIM PAINTING AT TOP OF LARGE BINS. CONTACTED HIGH VOLTAGE CABLE WHICH PASSED CLOSE BY.
5. ELECTRICIAN APPRENTICE SHOCKED BY IMPROPERLY WIRED EQUIPMENT WHICH GROUNDED THROUGH METAL LADDER HE STOOD ON.
6. VICTIM STANDING IN DREDGE POND ELECTROCUTED BY POORLY INSULATED SUBMERGED CABLE HE WAS MOVING.
7. VICTIM ON TRANSMISSION LINE SUPPORT TOWER CONTACTED 5.5 KV-A POWER LINE.
8. VICTIM RAISED DUMP BODY OF TRUCK INTO TRANSMISSION LINE. ELECTROCUTED STEPPING DOWN TO GROUND.
9. JUNCTION BOX ENERGIZED BY UNINSULATED WIRE. VICTIM ELECTROCUTED CONTACTING THE JUNCTION BOX.
10. VICTIM INSTALLING SHOVEL TRANSMISSION, CONTACTED ENERGIZED COLLECTOR RING.
11. DISCONNECTING 4160 VOLT MOTOR LEADS AT CONTROL CENTER; LEADS UNEXPECTEDLY STILL ENERGIZED FROM ANOTHER SOURCE.
12. REPLACING CENTER PIN OF SHOVEL USING EXTENSION CORD LIGHT, CONTACTED STILL-ENERGIZED 2300 VOLT CONDUCTOR.

80-04

DEATH TOLL Period covered: January - September

Year	Underground	Surface	Mills	Total
1978	28	50	27	105
1979	17	46	18	81

**DO YOUR PART TO KEEP THE TOLL DOWN!
SAFETY IS EVERYBODY'S BUSINESS**

☆U.S. Government Printing Office: 1979-677-158/8

(For use in underground and surface mining operations - noncoal)

JANUARY 1980



HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

Do You Care?

You have to care about safety. Many people who have been injured in the past knew they should have been more careful. Even in instances where there should have been a guard but there wasn't, the injured knowing this, shouldn't have allowed himself to become injured. Guards are not the only answer. Many times people are injured because of a missing guard which they removed and failed to replace themselves. Then, too, there are some people who manage to get themselves injured in spite of good guards. They reach around the guards, they block out safety devices, or they use tools or equipment beyond their safely rated capacity. You have to care!

Maybe subconsciously some people like to become injured. They then get a lot of attention and they like this. Maybe they think they are getting something for nothing. Free! "The employer has to pay compensation cases, so why should we worry about it?" they say. This is folly, of course, because who knows when a seemingly slight accident may be fatal. If people really care, they would realize this and not take even the slightest chance.

There are many reasons why a person should care. First, for personal reasons. Injuries are painful. They are a nuisance. An injured employee is not fully compensated for all the time lost from work. The injury may affect a person's ability to drive or do other things usually taken for granted. Also, there are other people who care and depend upon that person. They may not be able to play with their children or help around the house and yard, or be involved in recreational activities with neighbors and friends. People who care know these things. They don't want to miss doing any of these things that they usually do, and they work as safely as they know how. Do you care?

(For use in underground and surface mining operations)



HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

WHO GETS HURT?

At first glance, it appears rather obvious that the person who had to go, or be taken, to first aid or to the doctor because of an accident was the person who was "hurt". But was he the only one?

Let us take a look at a disabling case and discuss who gets "hurt".

An employee, during his usual job, allowed an object to fall; it landed on his foot, and he received a fracture.

The employee's work record was good, yet his injury record was only fair. The accident was definitely traced to inattention to the job. This man is in his thirties, is married, and has two children.

NOW -- WHO GOT HURT?

First: We know the man suffered pain from his broken foot. We also know he worried about loss of income, and this worry was shared by his wife. This distress did not last only for the 25 days the employee lost from the job but was actually a financial setback which took him months to recover.

It is particularly of interest that this employee's record shows him to be efficient and dependable, with practically no absenteeism, until the time of the accident. Shortly after returning to work, he was notified of a garnishment of wages. Following that, his record discloses a large percentage of absenteeism explained as sickness and personal business. Following conferences with the man, it was found that he had taken a second job in an attempt to catch up on bills. Proper guidance and assistance eliminated this potential for further serious accidents and eliminated the absenteeism.

Second: Did the foreman get "hurt"? Not in his personal physical condition, but:

1. He lost time when he took the man to first aid.

(For use in underground and surface mining operations)

2. He lost the services of an experienced employee on a particular job.
3. He had to rearrange employees and work assignments.
4. He lost production and, to an extent, quality.
5. He had to take time to investigate and write reports of the accident.
6. He had to answer questions of concerned fellow employees.
7. He had to inform his line organization.
8. He lost again when the employee returned, unable for a time to perform as quickly and efficiently as he did prior to the accident.

Third: Did the company lose? This case cost the company more than \$1,000 in compensation and medical treatment. This was a direct cost and did not include the cost of company first-aid facilities. If we were to take the nationally established ratio of 4 to 1 to determine the indirect cost, this accident cost the company \$4,000 in indirect costs and \$1,000 in direct costs or a total of \$5,000 for a fractured foot caused by inattention to the job.

With these facts, we can state that the man, his family, his supervisor, his department, and the company lost through the occurrence of this accident. On the other hand, nobody won.

This has been the history of just one typical disabling case. How often can YOU afford a disabling injury?

ABSTRACT FROM FATAL ACCIDENT

HOLMES SAFETY ASSOCIATION
MONTHLY SAFETY TOPIC



FATAL FALLING MATERIAL ACCIDENT

General Information: A falling material accident occurred in a coal silo under construction resulting in the death of a welder helper. He had 8 weeks construction experience, all at this mine.

Description of Accident: The construction crew started work on the coal storage silos which consisted of constructing hopper liner to funnel stored coal to the bottom discharge ports. These liners consisted of 4' x 8' AR steel plates welded together on a channel steel framework.

Work proceeded without incident while the abrasion resistant steel plates were set in place and anchored to the silo walls. When the plates were anchored, the concrete pour was started on the east plate and proceeded for three truck loads of concrete, which amounted to about 6 vertical feet of concrete. During the pour, the victim and another employee were on a scaffold at the top of the plate, directing the pour and sealing the cracks between the plate and the silo wall with rags. Two other workers were on a corresponding scaffold on the opposite liner plate waiting to start the pour on that side.

The construction foreman was about halfway down the east plate on his way back from inspecting the backfilling operation when a cracking, popping noise was heard and the east plate started pulling away from the silo wall. One employee went down the ladder to safety and the foreman scrambled to get off the plate and ended up lying on the bottom platform completely covered with concrete backfill.

As the plate slowly pulled away, the victims' partner climbed over the top to the backside of the plate where he rode the plate down. The victim reached for the hoist hanging near the east wall, but either did not get a good hold or was knocked off by the falling steel plate. He fell to the bottom platform near where the foreman was lying, and was fatally injured when struck by the steel plate.

(For use in surface coal-mining operations)

The victim was rescued from the silo and rushed by ambulance to the hospital where he was pronounced dead on arrival.

Cause of Accident: The accident occurred due to the failure to adequately design a method of anchoring the liner while pouring concrete.

ABSTRACT FROM FATAL ACCIDENT

HOLMES SAFETY ASSOCIATION
MONTHLY SAFETY TOPIC



FATAL EXPLOSIVES ACCIDENT

General Information: The mine was an underground fluorspar mining operation. The mine was opened by a 10-foot wide by 12-foot high adit which was 15 percent downgrade for a short distance and then leveling out to about 5 percent downgrade for a total distance of 450 feet. A ladderway and drift provided an escapeway to the surface. A shrinkage stope method of mining was utilized to mine the vertical vein-type ore body.

A mine superintendent was fatally injured when he failed to leave development drift after a 38-hole blast round was ignited. He had 3 to 4 years previous experience as a supervisor and a total of nearly 20 years mining experience.

Description of Accident: Two miners and a miner's helper started to work on the day of the accident performing their usual duties in the main haulage drift heading. During the shift, the three men pumped out the water that had accumulated overnight and drilled and charged a full face round in the approximate 10 by 12-foot drift heading.

At the normal blasting time, the mine superintendent, (victim), went to the shrinkage stope where two miners were working. He examined the workplace, checked the area to see that everyone was accounted for, and gave instructions to ignite the charged round. He also made certain that both stope miners left the area immediately and went to a safe location. This was established practice at blasting time.

The superintendent arrived at the haulage drift heading 10 minutes later and again examined the workplace before giving instructions to ignite the round. The two stope miners were about 80 feet up the drift and observed the superintendent and the two miners still at the face. The superintendent was cutting fuse around the burn with his knife and attempting to relight them with a lighter.

The drift miners stood behind and watched the superintendent, both insisting that it was time to leave. Meanwhile, the stope miners were "screaming" at the men to leave but the

(For use in underground mining operations - noncoal)

superintendent continued to ignore them. The miners finally left just before the round went off.

One drift miner who was seriously injured estimated that he was about 35 feet from the blast and another slightly injured, was several feet further from the blast. According to the witnesses, the superintendent made no attempt to leave the face. The victim was pronounced dead at the scene by a coroner.

It was suspected by one witness that the victim was attempting to light some fuse that had already burned. Also, he cut other fuse ahead of where it was burning and was unable to relight it with a cigarette lighter. Reportedly, the victim established the mining practices and enforced all safety rules in the mine.

Cause of the Accident: The cause of the accident could not be determined because the mine superintendent was killed and no apparent reason for his actions could be determined.



HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

STAY OFF CLOUD NINE

You may think you are a cinch to win a lottery, but can't possibly have an accident even though the odds are a thousand to one in favor of the accident.

As Benjamin Franklin put it, "Experience holds a dear school, but fools will learn in no other." Cicero, the philosopher, said in the same vein, "Wise men are instructed by reason. Men of less understanding -- by experience. The most ignorant -- by necessity."

When we blame others for our own failures, it is a good idea to credit somebody else for our success. Does the average person care to assume the blame for their own accidents? They seldom do. It is rarely their fault when they are hurt. It's always the company, the weather, or conditions. Yet, let the same person receive a safety award, and they alone did it with their ability to use their faculties and their superb awareness of danger. What part did the company, weather, or conditions do with it? Nothing. They did it all by themselves. SURE THEY DID!

Whenever a person is diminished or lost, everyone suffers a loss. Something is gone that can never be replaced. If we remember this for our own sake, and especially for the sake of those who hold us dear, we should forget our egoistical attitude and remember we are no wiser than our neighbor in regard to accidents. In all probability, we also thought an accident was something that happened to somebody else.

Keep your head out of the clouds. Your chances of getting hit by an airplane are a million times less than a mere ground type accident. If your head is in the clouds, you'll never see that accident coming and be able to avoid it. In other words, get wise to your inconsistencies and be sure of your ground and surroundings. Pride goeth before a fall, it is said. Don't let your pride and inflated ego lead you to destruction. If you are as wise as you want others to believe,

(For use in underground and surface mining operations)

you will practice what you most desire in others. Make your actions safe ones so neither you nor your neighbor will be sacrificed as a statistic on a loss column. People were not created to be a statistic. People were created to enjoy life. Be alert, be safe, and you will be allowed to live and find happiness in an unblemished whole body as your Creator planned for you at birth.



HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

INDUSTRIAL SAFETY FROM A TO Z

A is for Accidents,
which can be tabooed,
The very first step is the
right attitude.

B for the Bonus safety brings
in variety,
To workers, their family, home
and society.

C--injury Costs, seldom fully
revealed,
Like icebergs, the far greater
part is concealed.

D is for Data, essential
to bare,
Just what the actual problems
are, and where.

E--Education, which has no
divorcement
From sound Engineering and
wholesome Enforcement.

F is for Follow-Up. Surveys
are vain
Without further check whether
hazards remain.

G is for Guarding, and it's a
disgrace,
When guards are not used, or
not kept in place.

H for Housekeeping, a pretty
good gauge,
Of whether a firm, safety-wise,
is of age.

I is for Injuries--(outcome of
flaws),
They never just happen, there's
always a cause.

J is for Jargon,
however sincere,
The message is lost if
the meaning's not clear.

K is for Knowledge,
But it isn't enough,
To know what to do,
We must still do our stuff.

L is for Life, and the fruits
of our Labor,
Work safely, for your good and
that of your neighbor.

M is for Maintenance,
Powerful pal,
To miners, machinery, and
to morale.

N is for Now,
Let us faithfully vow,
To deal with all hazards,
And deal with them now.

O for Observance of all
safety rules,
Obeyed by the wise,
Disregarded by fools.

P for Prevention,
(Far better than cure),
That Planning and Programs
will help to insure.

Q for the Qualified,
They understand
Production and safety go
hand in hand.

R for Reporting and Records,
both needed,
For trends to be discovered
and heeded.

(For use in underground and surface mining operations)

S--Supervision,
And experts agree,
In Safety, the competent
supervisor is the key.

T is for Training,
designed to instill
The desire to work safely
as well as the skill.

U for the Unsafe
work practices that
Employers and employees alike
should combat.

V is for Vision
in hazard detection.
And also for Vigor
in hazard correction.

W--Waste
(and how it can hurt),
That safety and safety
alone can avert.

X is for Xmas,
With family cheer,
For those who work safely
the rest of the year.

Y is for You,
for whom safety is planned.
It can't be complete
unless You lend a hand.

Z for the Zealous -
each one a hero,
Who strives to bring injuries
closer to Zero.

HOLMES SAFETY ASSOCIATION

No. 1 Killer on Rampage

BOX SCORE--ROOF FALL ACCIDENTS

YEAR	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	TOTAL
1977	4	4	4	2	7	2	0	3	0	4	4	4	38
1978	0	0	1	5	3	5	2	8	3	2	3	1	33
'79	3	4	5	2	4	5	5	12	9	7	4		

KEEP YOUR MINERS AWARE
 ROOFUS THE MONSTER IS ALWAYS THERE
 HE WAITS TILL YOU RELAX
 THEN HE DROPS THE AXE
 AND YOU BECOME A STATISTIC
 IN THE BOX SCORE UP THERE

CHANCE

TAKERS ARE

ACCIDENT

MAKERS

JANUARY 1980



HOLMES SAFETY ASSOCIATION MONTHLY SAFETY TOPIC

THE NEW YEAR

This is a new work year. It is customary to make a fresh start and look at our past safety efforts in a very critical manner. Unsafe practices should be discarded and new safety ideas added to those that have proven effective.

At the beginning of a new year, we should recognize the need for personal improvement, compile a list of all bad habits and discard them. Many of us are successful in this effort. Others either set their goals too high or really do not want to change, and will soon fall back to their old routines (bad habits).

Each of us should do some soul-searching and take a long, hard look at our safe work habits and resolve to improve. Naturally, not all of your work habits are bad, so all that is necessary is a refinement of the safe practices that we know and discuss each shift. Before beginning any work, thoroughly examine the working area and always be sincere in your efforts. This should be at the top of your list of New Year's resolutions.

In the handling of your equipment, are you always aware of the potential dangers that could result in any injury if you fail to keep your mind on the job?

One of the things that makes America great is our desire to keep improving and always do better in our efforts. We do not like to stand still. We want better cars, better living conditions, and more of everything that spells advancement and progress. That should hold true for our accident record. Why should we be content to advance in all other fields and yet stand still when it comes to injuries to ourselves?

We have a better safety record now than we did several years ago, but it is still not good enough. We must improve until injuries in our industry are rarities. Accidents are as unnecessary now as they were years ago. We will be guilty of neglect if we do not improve our record, because we have shown in the past that it can be done and we have the know-how to do it.

(For use in underground and surface mining operations)

Improving our safety record is not just to better our standing on a chart or on our companys' book. You and I know that improving our records means fewer persons hurt, more happy families, more steady work, and more freedom from pain and suffering.

Let us all resolve to work safely during 1980, improve where necessary and help to lower the figures on all serious lost-time disabling and fatal injuries.

MSHA, Holmes Safety Association
Education and Training
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