

SAFETY
ROUTINE
for

MINE
SUPERVISORS

ANACONDA COPPER
MINING COMPANY
—○—
BUREAU OF SAFETY

INTRODUCTION

This pamphlet is an outline of the specific items expected of assistant foremen and shift bosses, regarding the prevention of accidents and should be used by the foreman as a basis of general instruction for the training of his staff in routine procedure.

The accidental injuries which are most important are, in general, those for which supervision is largely responsible. These are accidents due to Falling Rocks, Falls of Persons, Cars and Motors, and Operating Machinery. Accidents due to handling tools, material and broken rock are not usually due to a cause over which the supervisor has direct control. We expect, of course, that the supervisor will do whatever he can do in the way of instructing, etc., to prevent this type of injury also, but we will place the principal emphasis upon the four named above as being the special responsibility of the supervisor.

Falling Rocks cause more than fifty per cent of all fatal injuries and more than forty per cent of all serious injuries.

Operating Cars and Motors is relatively the most hazardous of all underground occupations.

Falls of Persons and Operating Machinery have a very high severity rate.

A very large proportion of Falling Rocks injuries are caused by rocks which weigh less than a ton.

Rocks which cause injuries are in general detectably loose for several hours before they fall. It is therefore basic that one of three remedies must be applied, i.e., take them down, block them up, or keep men from working under them.

In practically every case of serious falling accidents the cause can be traced to unsafe conditions with regard to manways, floors, grizzlies, etc. Most serious transportation injuries are due to lack of proper clearance

Bearing these facts in mind, a close adherence to the following recommendations should reduce our accident rate to a minimum.

TALK
IT
OVER!





1. STARTING THE NEW WORKING PLACE:

Before starting a new working place, whether it is a crosscut, drift or raise, the assistant foreman should know the purpose for which it is to be mined.

The Geology and Engineering Departments have usually been consulted and distances and directions have been estimated closely from the maps of levels above and sometimes below until a rather definite idea has been gained beforehand as to how much work is entailed in order to arrive at a production basis.

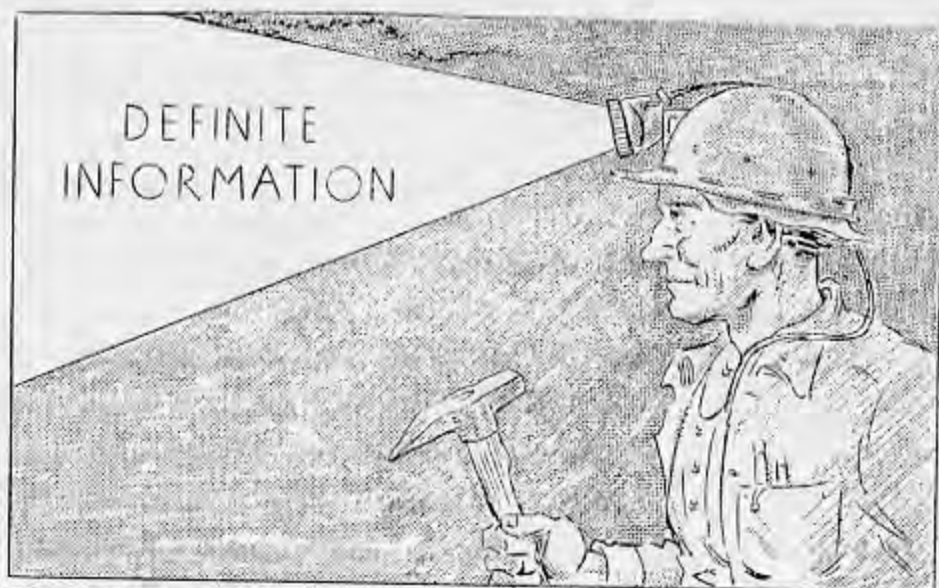
It is just a step further to obtain information as to the nature of the ground to be worked. The presence and size of faults which may be encountered and other information which will aid in the safe mining of this place is available.

Conditions which occur above and below may recur in this section and the hazards that were encountered in working other places in the vicinity are likely to maintain here. Therefore, the assistant foreman should consult the maps for information regarding faults and inquire of conditions which prevailed in this section on other levels.

He should consult with the safety engineer at the mine regarding accidents in which ground conditions have been a factor. He will then be prepared to anticipate the hazards he must overcome and to work the place to the best advantage.

When he has obtained all of the necessary information, the next step is consultations with the bosses. The bosses should be given all of the information necessary to supervise the job efficiently and this includes the data on character of ground, fault slips, water, tendency to slab or any other conditions which may prevail during the continuance of operation. When you are holding a man responsible for doing a job, give him all the information possible.





II. BEFORE WORK BEGINS:

As a result of the foregoing conference, the shift boss should have definite information as to the following:

1. Exact starting place.
2. Method of mining to be used (timbers, stalls, untimbered, etc.)
3. Tools and equipment necessary for job.
4. Type of men needed in the place.
5. Method of service necessary in order to work the place efficiently.

With this information, the boss can order the tools, line up a convenient timber station, order a supply of timber or stalls for the place and make sure they are on hand when the men appear for work.

If the place is a timbered drift, the safety stringers should accompany the first order. It is the boss's duty to see that they are placed immediately and kept in proper position at all times.

Regardless of the type of working place, several stalls should accompany the first order, and stalls should always be available to the men.

The assistant foreman should "follow through" and make sure that everything is in readiness. If the boss cannot obtain some part of the equipment, the assistant foreman must use every means at his disposal to furnish it to him.

The boss should examine and direct the placing of equipment in order to satisfy himself that it is being properly installed at first, thus saving probable accident hazards and costly reinstallations later.

All work required to make the place safe and comfortable to work in should be done before the place starts or during the first shift that men are in the place. Repairs which are neglected at the beginning usually cause trouble before they are made and men resent being pulled off regular work later in order to do these jobs.

After the work is started, the assistant foreman should visit the place as soon as possible to ascertain if the men understand the lineup.



III. THE FIRST SHIFT:

When the men report to the boss on the first morning, he usually gives them specific directions as to where to go and what type of work they will be doing.

Upon going underground, he should route his morning calls so as to visit these men as early as possible. This is a golden opportunity for the boss. Regardless of how much experience the men have had in this line of work, they are still new men on a new job and more amenable to orders than at any time later.

The relationship established in this first meeting will probably maintain throughout the whole period and the wise shift boss will take full advantage of this meeting.

The actual work will be discussed and the men told what will be expected of them. This is the time to impress the men with your sincerity regarding accident prevention by insisting that their barring operation be thorough and that they must use stringers, stalls, or other safety equipment whenever necessary. Let them know during this first visit that you have their interests at heart when you tell them to obey the rules and work safely.

If you talk "safety" in this first visit as convincingly as you discuss the production requirements, you have smoothed the way for "follow up" which should make your subsequent routine much easier.

The assistant foreman should go into all of these details with the men on his first visit in order to impress them with the fact that safe production is a requirement and not just something to be talked about.

It is important to make clear that the men's own interests are being considered in your efforts to make and keep the working place safe.

IV. THE BOSS'S MORNING VISIT:

Along with the starting of new places there is always the routine of safe mining in all of the other working places on the boat.

If the boss or assistant foreman has been rather lax on safety supervision in the past, considerable more ingenuity must be used to get old hands to think and work safely than to impress new men. If there is going to be safe work on the boat in the future, the time to begin this change is on the first visit TOMORROW MORNING.



The boss and assistant foreman should get together on this as the first thing to do is to eliminate all of the hazards on the boat. Remove or fix up that low chute mouth, bar down those loose dangerous slabs you look at every time you pass; fix that switch that is the bane of your motormen and other hazards you know of but suffer to exist.

You can only impress safety when you act safely. You should sit down and write a list of all of the shortcomings you can think of in your relationship with the men, then decide for yourself how each should be corrected.

Then your morning visit should consist of a thorough sizing up of the working places for safety, production and a mind on the future work to be done.

Your orders should be definite and safety orders should be FIRST, as the place should be made safe before men do other work. If the place is in poor condition or if the men are inclined to stall on safety work, you should remain in the place until this part of your orders has been carried out. You may not have time to do this every day in every place but you can take them one or two at a time and educate the worst cases first.

While you are doing this, you must impress the men with the idea that you mean to prevent accidents on your beat and if they wish to continue to work for you they must cooperate at least as far as their own persons are concerned.

Of course you must first sell yourself on the idea that you can do this. After all, safety is your major concern as a supervisor and you are definitely responsible for accidents which occur on your beat.

The assistant foreman has three distinct duties under this heading:

1. He must coach, assist and give his support to the boss in order to accomplish his purpose.
2. He should check the timber stations and other service places on the boss's beat, looking especially for the stock of stulls which should be there as well as regular timber and lagging.
3. The assistant foreman should take the lead in order to make it easier for the boss to start his safety program. He should, too, remain in places where he thinks it necessary in order to see that the men do as ordered.

This procedure may be difficult at first and require some tact, but once the system is established, it will run smoothly and the accident rate and the productions record will show good results.

Never send a man into a place that you do not know is safe, without going with him and lining out the manner in which he must make it safe.

V. THE BOSS'S AFTERNOON VISIT:

A very important time for a boss who makes up his mind that he will run his beat in a safe manner is the afternoon visit. This is the "follow up", and is the part of supervision which marks the real boss.

THE FOLLOW UP



It has been found, by investigation of accidents that in many cases the man was injured because he or his partner neglected to do the work as ordered by the boss on his morning visit to make the working place safe. It is reasonable to assume that if this happens so often in the case of accidents, it is true a great many times when no accident occurs.

If this is true, then the boss who wishes to prevent accidents on his beat must do something about it when on his return visit he finds that his orders have been either disregarded or disobeyed. It is not enough that the men do a fair or good shift's work; they must be shown that the work must be done in the manner in which it is ordered.

Otherwise the boss will have no control over the accident rate on his beat and will be entirely at the mercy of the men regarding accidents

The statements which appear on accident reports, such as:

"The boss had not visited the place that morning."

"The men were ordered to _____ and failed to do as ordered."

"The place was in good condition a half hour earlier, when the boss visited it."

and other such statements do not relieve the supervisor of responsibility.

In the case of Felling Ground, a slab which falls will show indications of having been loose for several hours. If it cannot be barred down, a stall or other means of support must be placed in order to insure against injury.

The prevention for other types of accidents is continual education and propaganda until the men become safety conscious. This is the boss's job as he is the first line safety inspector.

The assistant foreman's duty is to furnish the leadership to his bosses so that they may more easily enforce this important part of their daily responsibility toward their men. This responsibility not only concerns the physical condition of the boat but also the behavior of the employees. In either case, the criticism for any irregularity reverts to the supervisors who suffer such conditions to exist.

Therefore, it behooves bosses and assistant foremen who are inclined to overlook infractions of safety rules and other misdemeanors on the part of men who do an excellent job otherwise, in order to keep them contented and on the job, to insist that these men, as well as others on the boat, do their work as ordered. It will not only help the morale of all the men, but is almost sure to prevent an injury to the men concerned. It never pays a boss to be lenient in order to placate men. If you neglect to "call your shots", on safety rules, you will eventually lose your men anyway and also will have lowered your own standards with your crew.



VI. CONDITIONS OTHER THAN IN WORKING PLACES:

The way men will react to safety instructions from the boss depends largely upon the conditions that exist in that part of the mine. If drifts and manways are dirty; if there is poor service and broken or faulty equipment for them to work with, it is rather useless to tell men to keep their own working places in good condition.

When the supervisors show the men that they, themselves, are making an effort to keep the beats safe and comfortable, and show them by good service in regard to tools, equipment and cars, the attitude of the men towards safety and other necessary work which the boss may order will be entirely different.

So it behooves each assistant foreman and boss to keep his section of the mine in as good condition as possible. The drifts and crosscuts must be kept clean; manways in good shape and all dangerous conditions eliminated.

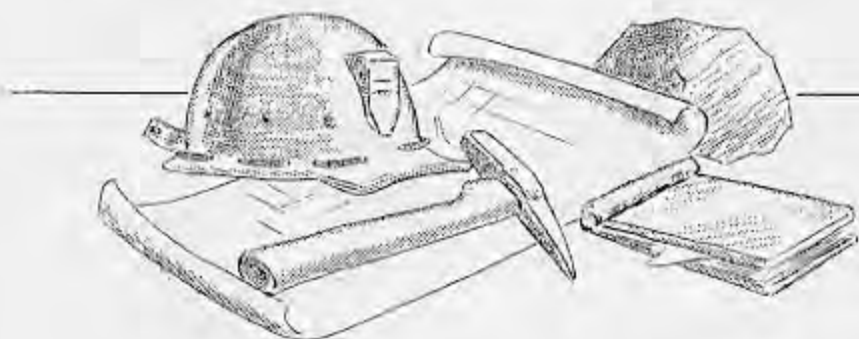
Slabs must be barred from walls; chute mouths, pipe, cable, track, and all necessary equipment must be installed properly. The general appearance of the mine must show that there is regard for cleanliness and efficiency. Those unsightly conditions you pass frequently and promise yourself you will get fixed should receive attention. They are always repaired after they cause an accident. Why not do it before someone is hurt?

The greatest showing you can make in this regard is to see that your men are getting the best ventilation available to them. Check your fans for return air, keep restrictions out of manways and chutes which serve as air courses and don't work your places into "dead ends" where they do not get proper circulation. Keep the fanbag in good shape and close enough to the working places and maintain good air and water blasts where necessary.

Drive the idea home to the men that it is to their advantage to care for their own fanbag.

These are just highlights of the supervisor's responsibility for the working conditions in the mine. The assistant foreman figures in this picture to a great extent, as the boss must apply to him for most of the remedies.

The efficient way is to insist that work be properly done at first. This eliminates the unnecessary cost of twice done jobs and prevents accidents which may occur before places are properly fixed.



VII. ENFORCEMENT OF SAFETY REGULATIONS:

In order to prove to yourself that the fundamental rules of safety and the regulations which are issued from time to time by the management are basic principles of good mining and therefore as necessary to production as to safety, ask yourself the following questions;

WHO IS RESPONSIBLE FOR:

New slide or chute mouths protruding into drifts at less than 5' 6" over the rail?

Newly laid curves or switches which cause derailment or which the cars and motors cannot easily pass?

Intersection or other posts which do not have sufficient clearance?

Track grades which allow drifts to become muddy or sloppy or which may cause accidents?

Timber without proper blocking, back lagging or job lagging?

Stringers not used properly?

Motormen who continually disobey safety rules?

Timber being removed without first making the place safe by stalls or other means?

Chutes without grizzlies and other holes not protected?

Poor manways, broken ladders and shortage of landings?

Poor flooring in stopes?

Slabs falling which should have been either barred down or stalled?

Each of these questions and many more contain a principle of basic mining which should be inherent in any installation. Failure to do the job properly in the first instance reflects on the supervisor. He should state definitely what is to be done and how, and he should not accept sloppy workmanship as sufficient.

The subsequent costs of poor installation far exceed the cost of a job well done and in a number of cases the poor job must be completely overhauled in a short time and an accident may occur at any time during the life of the poorly constructed work.

Therefore, it behooves any supervisor who wishes to be a success on his job, both as to safety and production, to plan his jobs, give definite instructions with regard for the Rule Book and special orders issued from time to time, and then insist on his orders being carried out.



VIII. THE ASSISTANT FOREMAN'S RESPONSIBILITY:

While the shift boss is the first line supervisor, as far as the men and the individual jobs are concerned, the assistant foreman is responsible to a great extent for the condition of the several boss's beats.

The assistant foreman usually receives and transmits the management's orders to the boss. When receiving these orders, the assistant foremen should be sure that he knows all of the details, and has a thorough understanding of the job before he attempts to direct the boss as to procedure. He then should be sure that the boss knows thoroughly what is to be accomplished before allowing him to proceed.

In regard to this, on each new job the assistant foreman should stress type of work, hazards known to exist, clearances necessary, kind of material and equipment to be used and precautionary measures to be taken so that work will proceed without costly changes after the place has started.

After the work has started, the assistant foreman should check closely on all parts to be certain that fundamental safety regulations have been followed. He should know that the all important items such as ground support, clearances, mechanical installations, track grades, chutes, manways, or whatever else is necessary to pursue a continued safe operation, are suitable to the place being worked.

He should not only discuss these things with the boss, but also inform the men that such methods as the management decides to use in the place are the result of study and experiment. He must also insist that the men obey the orders as given by the shift boss. If there is to be any change of method contemplated, the boss should know it before the men.



As an inspector and a teacher of bosses, the assistant foreman has another responsibility which cannot be easily overlooked. He knows, from the conditions of beats and the kind of work being done, as he travels with his several bosses, whether or not the shift bosses are successful in maintaining safe conditions and getting the work done in a proper manner.

If a boss does not fulfill the requirements expected by the assistant foreman, he must find the reason. Is it tools, equipment or service? If any of these necessities are lacking, he must make immediate plans to supply them.

If the boss needs coaching or training in order to run his beat properly, the assistant foreman should furnish such training and assist the boss in establishing proper relations with the men.



IX. SUPERVISORS MUST ASSUME RESPONSIBILITY FOR ACCIDENTS:

When an industrial organization needs new supervisors for a department the list of employees is reviewed in order to try to obtain persons of special adaptability for work in that department.

Recommendations are generally asked for from the heads of that department, but the only knowledge the organization has at the time is the candidate's personal efficiency and knowledge of the work.

It is not until after the candidates are placed in supervisory positions that their ability to assume responsibility can be studied. The qualifications which are necessary in a good supervisor are: Leadership, ability to plan and direct, and to visualize the end point of the project in hand and work progressively toward that end. His attitude toward organization policy is very important and he must transmit this policy to employees in his charge in the proper manner. Lastly, he must be amenable to supervision by his superiors, and be competent in having his orders and instructions carried out by the workers in his department.

The safety program of an organization is inseparably joined to every detail of a supervisor's job and the successful supervisor makes safety an inherent part of every instruction given to his men.

In some organizations, the problem is rather easily solved by placing guards and automatic stops on machinery; maintaining good housekeeping; providing non-slip flooring, etc.

In mines we have a more diversified and difficult problem as the work is not amenable to close routine. There are circumstances in every job which may call for some different treatment, and the supervisors must study each job and order the necessary safety precautions to be taken so that the work can be successfully accomplished.

But even in mines there is a definite procedure by which safest work can be maintained and the tools, equipment, and methods should be common knowledge, not only among supervisors but also among employees. It is the supervisor's responsibility to order the proper and timely use of such safety apparatus or method, and to follow up later to ensure the obedience to his orders.

In regard to charging accidents against a boss on whose beat they occur, for the purpose of determining a rating, this method has a very logical premise. State government recognizes an employer's responsibility for safety of employees by compensation laws, which make the employer liable for accidents which occur in the plant.

As the supervisor directly represents the company among the men, he must be held responsible, not only for the physical conditions in his beat, but to a certain extent also for the behavior of employees on the job.

Teaching proper methods, fitting men to jobs and even keeping alert for awkward movements or bad practices on the part of his employees, which may lead to accidents, are a part of the supervisor's duty and he is responsible for any accidents due to laxity along these lines. It is a big job if properly done but makes a big man of one who succeeds.

X-SAFETY FIRST IS COMMON SENSE

Industrial firms have supported councils and other organizations maintained for the purpose of distributing information and propaganda, and have studied the problem in the plants with thoroughness.

Campaigns galore have been conducted and special drives against certain types of accidents have been carried on. People in every phase of public life have done something toward safety first, and the results have been gratifying in some cases, but in many instances there has not been a great deal of improvement.

The four or more injuries sustained by people who are off the job on their own, to each accident which occurs while they are actually at work, disproves this assumption. In fact, a great many people do not give any thought to accidents until they occur; then readily forget them.

While industry is not actually to blame for accidents as it does not wilfully cause them to happen (rather, it tries desperately to prevent them), there is responsibility on the part of management to do all in its power through maintenance, education and enforcement to bring its accident rates to a minimum. And it is the job of the supervisory staffs who are closest to the workers and in direct charge of operations to carry on the projects in the safest manner possible. Theirs is the duty to outline the jobs so that their employees can work in safety.

It is also their duty to instruct their employees in safe methods and proper routines, and to demand that the workers take necessary action to protect not only themselves but to have regard for the safety of fellow employees. And lastly, the greatest responsibility which rests with the supervisor is to "follow through" and insist that his orders be carried out.

The assistant foreman or shift boss who will think, act, and teach safety, and who succeeds in convincing his men that the Rule of Self Preservation is the first rule of safety, and that they must care for themselves and use common sense in their work, will maintain an accident rate which will be a credit to him, and as the accident rate goes down, the production and efficiency rate will go up.



PRODUCTION WITH SAFETY

