

Rock Springs - May 4, 1943

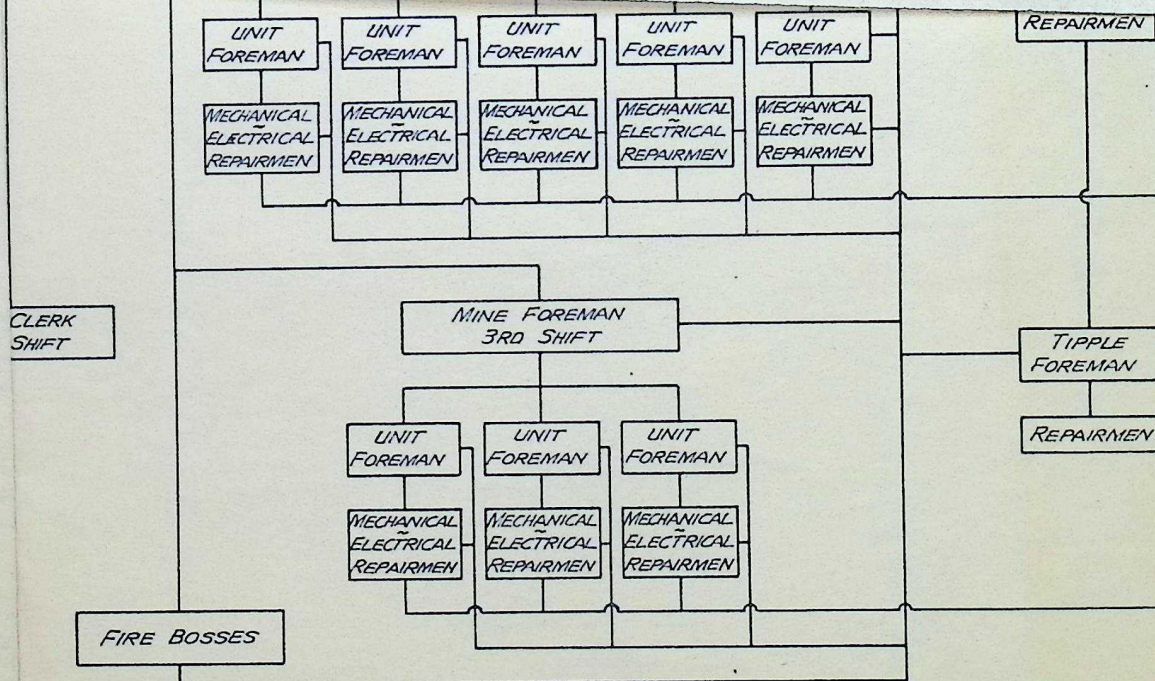
Mr. I. N. Bayless:

6,80.33 T5 NY

Herewith two prints of the Mine Organization Charts prepared for you last year; these mentioned in connection with Reports on Underground Supervision for Mobile Loading Machines reproduced from the Mining Congress Journal.

It would appear that the chart prepared as per your instructions is more advantageous for our operations than those contained in the report.

Original Signed
L. M. CHARLES

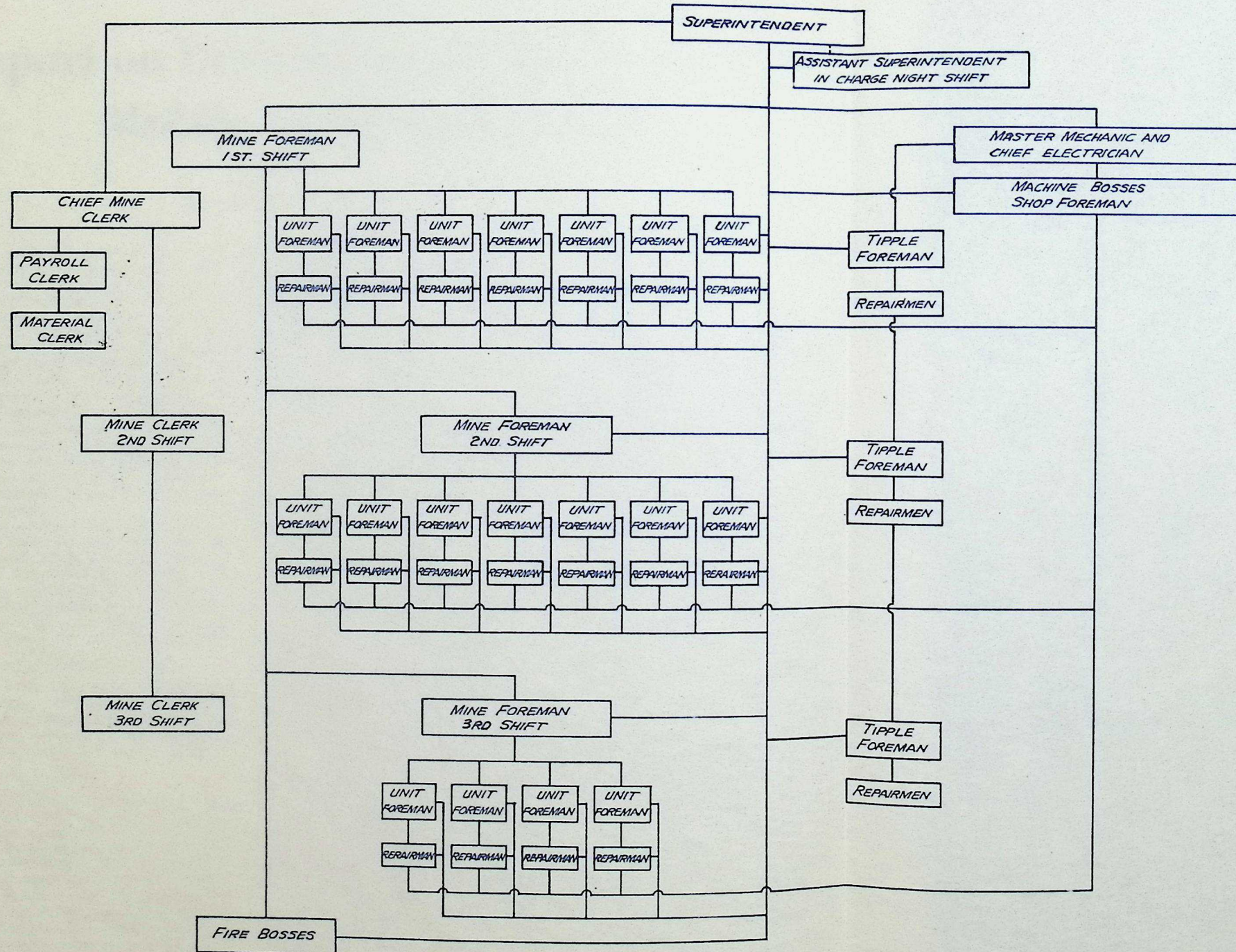


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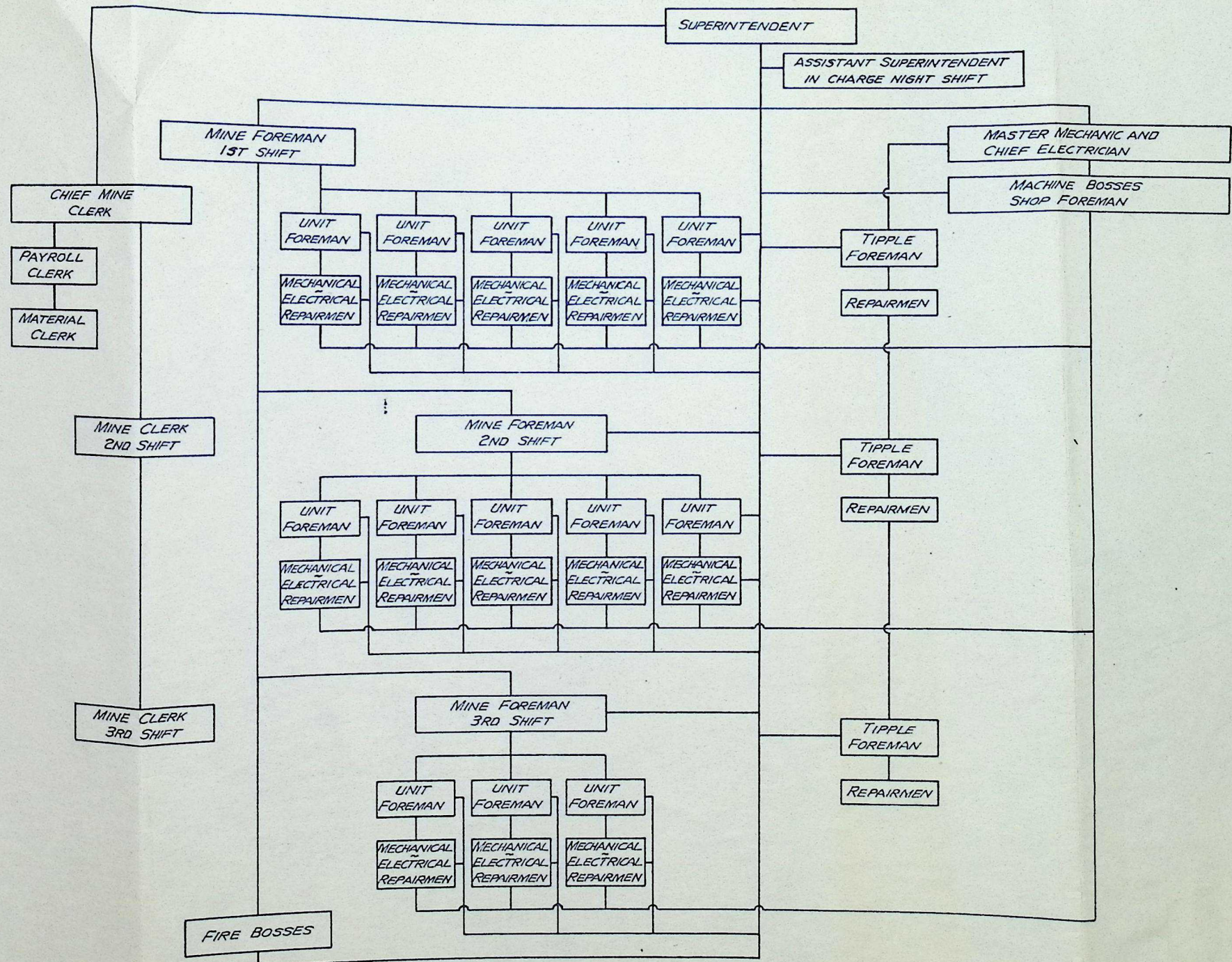
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MINE ORGANIZATION CHART
CONVEYOR MINING



MINE ORGANIZATION CHART
MOBILE LOADER MINING



Coal Division Reports

Report on Underground Supervision for Mobile Loading Machines

By the Committee on Mechanical Loading

THE REPORT presented here has been prepared by the committee after a comprehensive study of the supervisory methods used by a number of coal companies operating in various fields. The committee wishes to state that its intent is not to tell the industry exactly how all mines should be organized, but to point out organizational practices which seem to be generally satisfactory. Modification of these organizational practices are sometimes made necessary by the personalities and the capabilities of the key men involved and by the conditions and plan of mining of the particular mine.

Seven groups of officials having directive authority over other men are considered. Their duties are tabulated in the accompanying summary and also are outlined in the two organizational charts submitted herewith, while the following is a detailed discussion of the specific duties of these officials:

1. Mine Superintendent

The mine superintendent supervises the entire operation, but controls underground supervision by direct line authority through the mine foreman, safety engineer and master mechanic.

2. Safety Engineer

The modern mechanized mine has a need for a safety inspector or safety engineer whose duties should be considerably more than the usual routine of collecting rock dust samples, taking methane readings and training mine rescue teams. He should be a competent mining man duly qualified by experience and judgment to make constructive suggestions, and should have personality and tact so as to secure a satisfactory degree of cooperation from the mine foreman.

The safety engineer should report directly to the mine superintendent and should work in cooperation with the mine foreman, having a voice in general mining problems, particularly in regard to ventilation. He should have authority to stop work in any

place he deems unsafe until the place is made safe. His duties should include regularly scheduled inspections of each section and he should report on the operating condition of equipment from the viewpoint of safety as well as on working conditions in the section. In large mines he may require one or more assistants, or even a departmental setup.

The safety engineer should investigate all accidents, determining the cause and making recommendations of steps to be taken to prevent recurrence of similar accidents. He should hold frequent educational meetings with men and their foremen, in various classes of work, to discuss their safety problems in detail.

3. Mine Foreman

Duties of the mine foreman, or mine manager, are prescribed by law to some degree in all coal producing states. Regardless of existence of safety departments, or multiple shift operation of mines, or organization by functional control within the setup of management; the mine foreman by law is primarily responsible for all underground conditions, for the maintenance of safe practices underground and is, like the captain of the ship, the final authority in the mine. Responsibility is delegated to him by the mine superintendent, or his assistant, or his equivalent. In turn he may delegate responsibility to assistant mine foremen in charge of shifts, assistant foremen in charge of sections of the mine and assistants in charge of one unit. The mine foreman should have the last word in hiring men and likewise the last word in firing men. Direct orders should be received from the mine foreman and transmitted through channels of direct line authority to the individual. This plan should be modified only in cases involving safety or some emergency which may require direct action. Proper underground discipline requires that this principle be observed. The mine foreman should have active

supervision of the first or day shift and directive supervision of the other shift or shifts.

4. Master Mechanic

A normal delegation of authority in actual practice, and in some states by mine law, is in regard to mechanical and electrical installation and maintenance underground. It is seldom that the mine foreman has the necessary qualifications to properly supervise this work. He may have charge of the operation, but as far as the installation and maintenance is concerned, this has to come under some other man specially qualified in those lines, usually known as a chief electrician, master mechanic or machine boss. In some states the chief electrician is now equally responsible with the mine foreman in complying with the state law as to the condition of electrical apparatus and power lines. These several delegations of authority are necessary in operations of any size, especially if the mine is mechanized. However, it is felt that the mine foreman, in case of any question or dispute, must be the man who has the final authority.

Men employed in machinery maintenance such as mechanics, electricians, greasers and repairmen make up the crew of the machine boss who may have assistants on other operating shifts. These men are responsible directly to the machine boss or master mechanic, but must also be subject to the mine foreman of their shift while underground. Conversely substation attendants, wiremen, pumpers and similar groups may also take direction and instruction from the master mechanic as a supplemental authority.

The practice of having the maintenance foreman or master mechanic responsible directly to the mine superintendent seems to be satisfactory. In general the maintenance foreman should have full responsibility for the condition of the equipment and full responsibility for the functioning of maintenance men. Normally one or

more shift repair bosses are subordinate to the maintenance foreman. These men report directly to him and in his absence handle as many of his duties as their abilities permit. The relationship of the maintenance foreman to the mine foreman and his organization in mines which seem most successful, include the following general classifications:

A. Situations where the maintenance foreman has authority over the mine foreman, or his assistants.

1. The maintenance foreman or one of his subordinates finding equipment unsafe or liable to fail mechanically, can stop the operation of the equipment.
2. The maintenance foreman or one of his subordinates has authority to halt harmful practices of operators who abuse their machines.
3. The maintenance foreman has authority to demand opportunity to grease and maintain the equipment.

B. Situations where the mine foreman, or his assistants, has authority over the maintenance foreman.

1. The mine foreman or his assistants have authority over the safety practices of the maintenance force.
2. The mine foreman or his assistants have the right to remove the maintenance force or any men from any portion of the mine that they should deem unsafe.

C. Situations where the mine foreman and maintenance foreman have equal authority which the superintendent must decide.

1. Buck passing involving the attempt of one group to hide their own failures behind those of the other.
2. Most practices involving production in which the maintenance and operating departments take opposite sides.
3. However, in the absence of the superintendent and when some action must be taken immediately for safety or operating reasons, the mine foreman must have the final say-so.

The maintenance foreman should also have the authority to instruct the assistant foremen in regard to certain practices of operation that increase maintenance cost. Invariably, maintenance foremen become thoroughly familiar with the personnel who are operating certain types of equipment, and the maintenance foreman should be consulted and his recommendation given consideration when new men are picked as operators of equipment.

TABULATED SUMMARY OF THE DUTIES AND AUTHORITY OF THE OPERATING OFFICIALS FOR MINES WITH MOBILE MECHANICAL LOADING

*Position	Duties	Authority
MINE SUPERINTENDENT	Supervises the entire operation	Has authority over Mine Foremen; Safety Engineer; Master Mechanic.
SAFETY ENGINEER (Ventilation Engineer) (Company Inspector)	Supervises safety of operations	Has authority over men working under dangerous conditions; Ventilation; Rock Dusting; Safety Education.
MINE FOREMAN (General Mine Foreman) (Mine Manager) (Pit Boss)	Supervises the day shift	Has authority over Fire Bosses; Active supervision of first shift; Directive supervision over second and third shifts.
MASTER MECHANIC (Chief Electrician) (Maintenance Foreman) (Machine Boss)	Supervises maintenance crews and mechanical equipment	Has authority over Repair crews; Underground shop; Outside shop.
ASST. FOREMAN	Supervises work in a section	Has authority over Second Assistant Foremen in his section or crews for the general mine operations.
SECOND ASST. FOREMAN (Section Boss) (Unit Boss) (Face Boss)	Supervises operating crew	Has authority over men in his mechanical loading unit, which may be on entry development or on production in rooms and pillars.
TRANSPORTATION FOREMAN (Dispatcher) (Motor Boss) (Boss Driver)	Supervise haulage	Has authority over main line and secondary haulage; Supply delivery; Transmitting information.

*NOTE: Official titles for similar positions vary in different localities, and this summary shows in parentheses, synonymous titles which are in more or less customary use.

The close cooperation of mine foreman, maintenance foreman and all assistant foremen in the choice of the operator and the operation of the units will be a great help to the successful operation of mechanical loading.

5. Assistant Foreman

In large mines the need for assistant mine foremen occurs when the mine is so large that the mine foreman is unable personally to supervise the general crews and the assistant foremen in active charge of sections. Such assistant foremen have delegated authority from the mine foreman to supervise certain crews or groups of crews. These men should

have mine foreman papers (*or assistant mine foremen papers*) and any of them should be capable of taking the place of the mine foreman or shift foreman in their absence. Actually men in this group are "legs" for the foreman, to help him cover a job beyond the physical limitations of a single man.

In those cases where it is desirable to have an assistant to the mine foreman to supervise several sections or units, this man usually would also look after the general and relay haulage serving his various units; supervise the ordering and recovering of material, the placing and removal of wiring, the general ventilation, drainage, timbering and trackwork back

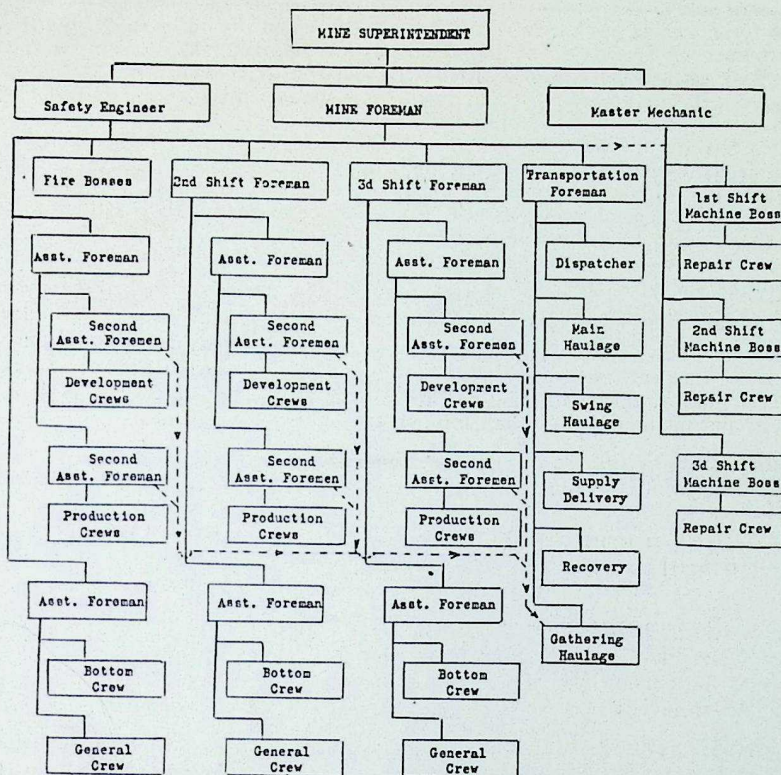


Chart 1—Supervisory organization plan for multiple shift operation

from the face and might be in direct charge of groups of general timbermen or trackmen, if the situation is such that such groups are used and shifted from section to section.

Where all normal mining operations are completed on one shift and a second shift is required only for maintenance and supply delivery, the foreman of the second shift is the night mine foreman (or night shift boss). He is responsible directly to the mine foreman who devotes most of his attention to the day shift. The night foreman should have mine foreman papers or certificate, or assistant mine foreman papers. The actual requirements as to mine foreman or assistant mine foreman certificates will vary slightly from state to state.

Where two or three production shifts are involved, the second or third shift foremen are directly responsible to the mine foreman. These men are directly responsible for everything underground during their tour of duty, and where this tour of duty involves regular production these men should have mine foreman certificates. It is best that the mine foreman remain in active charge of one of the working shifts and that the shift foremen of the other shifts report directly to him.

It is altogether a different thing to operate a mine three shifts, six days a week, than it is to operate it one shift, or two shifts. Many problems are multiplied out of all proportion to the number of shifts and there are

line timbering and track maintenance, substation attendants, pumpers, rock dusters, road cleaners. Sometimes there is enough of this work to warrant putting it in charge of an assistant foreman.

6. Second Assistant Foreman

The most important phases of inside supervision is, naturally, the operations at the face. It is felt that each mechanical loading unit should have a separate unit foreman for best operation and safety in all cases except those where only very small crews are operated for development or other reasons, and where two or three crews are so close together that they can be properly supervised by one man. This is seldom the case and it has been observed over a period of years that there has been more and more of a tendency for each mechanical loading unit to have a boss of its own.

These foremen should have absolute charge of the timbering, track, cutting, drilling, shooting, loading and any other operations at and near the face. In most mining systems the section in which a mechanical loading unit is located is a separate area, and in such cases the unit foreman would naturally have charge of all that section back to the side track or to the outside of the panel in which his ma-

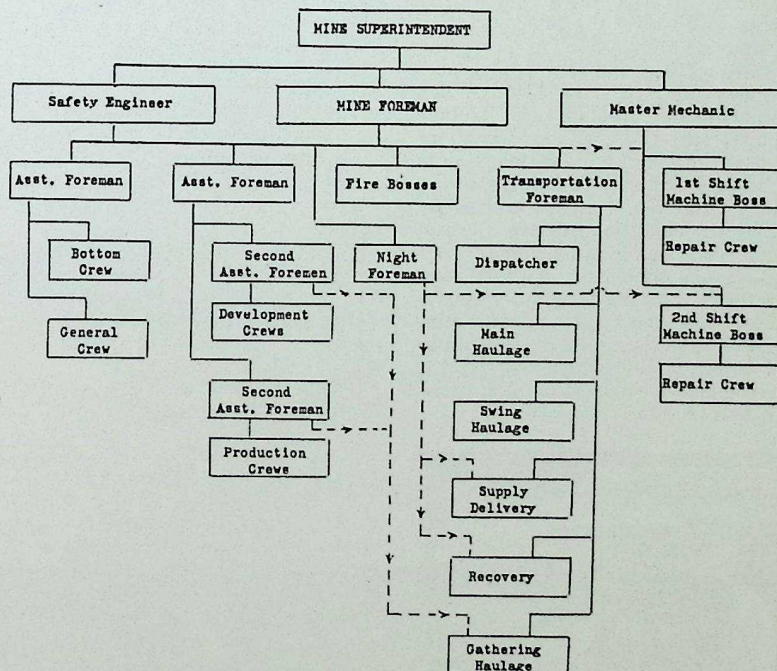


Chart 2—Supervisory organization plan for single shift operation

problems that never exist in single or double-shifted mines which become very important in triple-shifted ones.

All crews assigned to irregular or special jobs report directly to the foreman in charge of their shift. These include grading, wiring, building of stoppings and other masonry, main

chine is working. His section may include one or more loaders, cutters, drills and locomotives but it should be a balanced unit, not depending upon part time service of equipment under charge of another boss, except for main haulage.

The unit foreman (or "face boss")

is the man directly responsible for a section of the mine with the men at the face under his immediate control. He ranks as an assistant mine foreman and should hold an assistant mine foreman certificate. No orders, except in emergency, should be issued to his men except by him. He should be fully accountable for performance and production in his section. He is responsible for keeping the maintenance department acquainted with the condition of his mechanical equipment and with notification to the supply department of his supply requirements. It is usually necessary for the unit foreman to make note of and telephone out to the dispatcher for relaying to the mine foreman, or assistant general foreman, a variety of information that it may be necessary to know for the oncoming crews ahead of the time that these crews come in so that men can be properly spotted, equipment transferred, supplies routed, etc.

Such information that it is sometimes necessary to relay an hour, or two hours, before the end of each shift would cover such things as falls to be made, wire to be extended or taken out, pipe lines to be laid, doors to be hung, stoppings to be built, heavy roof falls or bottom rolls to be drilled and shot by the compressor men, places in dangerous condition, etc.

The unit foreman and the general assistant, if any, must necessarily keep in touch with the transportation foreman, or dispatcher, to keep him informed of any unusual occurrences that may affect his operations, such as machinery breakdowns, haulage troubles, etc., the foreseen stepup or slowdown in loading operations due to condition of places, and a variety of other conditions. It is felt that by reporting the condition of each place at the end of each shift by each crew marking the timbering and cuts that they make, and by constant observation and checking by an assistant mine foreman, that the unit foreman can be held better in line which will tend to promote better cooperation and, therefore, better tonnage.

There are many cases where the unit foreman has his hands full if he takes care of operations at the face and does not concern himself with relay haulage, maintenance, track, timbering, wiring, etc., in his section back from the face, or where the unit foreman is qualified only as a leader or pusher, in which case the broad and general aspects of his work, as well as perhaps one or two other units, must be supervised by another man who would be his superior.

This is also particularly true where two or three units are working on one pillar line where it is of utmost importance that each and every place be worked just at the right time and in the proper manner to keep the rib line straight and the pillar work consequently, in good condition.

7. Transportation Foreman

The transportation foreman, or his equivalent under another name, is the supervisor of main haulage, secondary or swing motor haulage, mantrips, dispatching and supply delivery. In some cases this man has charge of recovery of material. He is responsible directly to the mine foreman or his shift foreman. He keeps track of the whereabouts of all foremen, fire bosses, maintenance men and any other key men. All in all, he is the nerve center of the mine, receiving and transmitting information and keeping informed of what is going on at all times.

Summary

Everything possible should be done to uphold the authority and prestige of any foreman in charge of any class of work, because if this is not done his efficiency and usefulness is greatly reduced.

Each foreman must be backed to the limit and any attempt by workmen to go around him must be prevented at all times by referring him to his own foreman on any question that he raises pertaining to his work.

Officials can prevent labor disputes by fair and firm dealing with all men

regardless of their personal feeling. All foremen should learn to hold their temper; never make decisions that affect their men when they are angry and should cultivate the friendly respect of the men towards them. If they can convince the men they are fair and absolutely square in their dealings with them, do not fly off the handle and swear; they will eliminate many labor disputes. A foreman should also know how to give instructions in regard to the work he wants performed. If these instructions are clear, right to the point so there is no misunderstanding, he will eliminate many petty grievances and arguments.

Officials in the mine should be relieved of the annoyance of a multitude of reports, with the bookkeeping simplified and boiled down to the essential reports in addition to their state reports.

Mine foremen, assistant mine foremen and fire bosses are qualified state officials, as are chief electricians and others in some states. These men have legal responsibilities as well as duties to the company employing them. All of this demands that careful thought be given to the selection of all underground officials, their further training, their relationship to one another and to the organization as a whole, and their working conditions—all in accordance with the dignity and responsibilities of their position.

Approved by Committee on Mechanical Loading, January, 1943.

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