



MINING

FOR THE INVESTOR

By Ralph Keeler

THE "BUSINESS" OF MINING

The secret of success in mining, as in any other business, is efficient organization. Modern mining has become a business which is much more complicated than most industries because of the different and unusual elements involved.

The manufacturer of shoes, for example, has to consider financing, raw materials, machinery, methods, and markets. He can start out making ten pairs of shoes a day, and can increase his factory until it turns out 10,000 pairs. If the demand for this product increases suddenly, as in the case of a war, he can put on extra shifts, or increase his factory floor space. If the demand for his product is lessened, he can curtail his operations by cutting down his staff, knowing that when conditions improve he can resume full capacity operations.

The mining operator, however, has many more problems to solve before he can become successful.

The life of any mine, no matter how large, is definitely limited by the amount of ore available. Every ton of ore mined is one ton that can never be replaced. Thus the mine operator has to realize, from the very start, that his operation has but a relatively few years in which to be successful—success in a mining enterprise being the return of ca-

pital with a reasonable dividend for those who have invested their money.

If the property is a gold mine, then there is no question about the marketing of the product, or of competition from others. Even a gold mine, however, is subject to various economic conditions; a decrease in the price of gold would seriously affect many marginal operations for example, and rumours of such an event, common not so very long ago, affected mining stocks adversely until they were dispelled.

If the operator is working a base metal property, then he must consider where and for how much he can sell his metal. World conditions change metal prices almost overnight, and it is not at all unusual for a producing mine to be forced to shut down because of a lack of a market. In the Philippines, the production of chromite was seriously curtailed in 1938 when the American market was surfeited. There are prospects that shipments may be resumed in 1939 as a result of the contemplated rearmament program advised by President Roosevelt. The vast deposit of iron ore in Surigao owned by the Philippine government can not be developed until a satisfactory contract can be arranged, presumably with Japanese interests or with the Japanese government.



To continue the comparison of the shoe manufacturer with the mining operator: If the shoe manufacturer, after operating for a few years, decides, for one reason or another, to move to another location, he can haul his machinery and supplies to a new city, and can resume business within a few weeks.

Once the mining operator starts a tunnel, or moves a ton of rock on a property, he is limited to that property, unless he wishes to lose his investment. Mining machinery and equipment can be transported, to a certain extent, but the isolated locations of most mines makes the cost of such transportation prohibitive. A tunnel is a waste of money unless it uncovers ore, serves as a haulage way, or in some way contributes to the success of the venture; and after the ore has been exhausted, a mine becomes a hole in the ground, not only worthless but at times dangerous unless properly safeguarded.

The shoe manufacturer can make high-priced shoes, or low-priced shoes, depending upon his estimate of the market. He can change his patterns and models more or less at will, or more or less without excessive cost. The miner, however, must make his decisions promptly, and accurately, for once he has made them he is "stuck" with them.

For example, most mines have areas in which the grade of the ore varies. One mine, for example might have 5,000 tons of P100-per-ton ore blocked out; 5,000 tons of P50.00 rock; and 100,000 tons of P10 rock. Is the operator going to mine out all of his P100 ore, make a handsome profit at the very start of operations, move on to the P50 rock, and make half as much, and then finally clean up the P10 rock at a very slight profit? Not if he is an efficient operator; he will mix his high grade with his low grade ore, and can thus maintain his mill heads at a point where a satisfactory profit will be realized, at the same time making it pos-

sible to mine all of the ore, he took out all of his high grade at the start (which operators have occasionally done because of the urgent need for funds) he would find himself left with a mine from which he could get only medium or low grade ore; his margin of profit would be so narrow that it would be a constant struggle to make ends meet.

If the mining operator opens up too many tunnels, his maintenance costs will be excessive; if he has too few, he will have trouble securing enough ore to keep his mill bins supplied in case of emergency. Once an underground mining operation is started, it must be maintained; and the longer it is continued the more workings there are to maintain.

Obviously, then, in order to handle the administration of a mining operation successfully, there must be skilled technical knowledge, shrewd business sense, and efficient executive ability to coordinate the two.

"The technical committee is a recent development in mine management. It is made up of engineers each of whom has some special qualification that enables him to advise the board on certain phases of its business. It is, in effect, a committee of consulting engineers. Only the very largest of mines could afford or justify such an aid in good management. There is undoubtedly wisdom in council, and when a mining company has a technical committee composed of specialists in geology, smelting, concentrating, and mining it should have few errors in engineering. The technical committee should read and analyze all the data coming from the mine and should meet at least weekly to discuss matters. This committee, like the consulting engineer will probably have no power of discipline or appointment except that which comes from intimate device and counsel with the board."*

* From "The Economics of Mining" by T. J. Hoover, 1933.



J. H. Marsman was quick to appreciate the importance of cooperative technical action in mining; he organized the first board of consulting engineers in the Philippines, in 1932. The success of the Marsman-managed mines since that time bear witness to the efficiency of that organization.

Almost as important as the purely technical side of mining is the business

end of the industry. It wouldn't do the miner much good to recover ₱20 per ton from his ore if through ill-advised purchasing, the costs of dynamite, fuel oil, and machinery were so high as to make a profit impossible; nor could a mine be operated efficiently if supplies were delayed, if the quality of vital machinery was inferior, and operations thus held up.

(To be continued)

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