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BY FRANK G. SHORT

SINCE depletion is one of the most uncertain subjects in the entire field of accountancy, it is natural that there should be wide differences of opinion concerning it. I shall present summaries of my principal points, each supported by a short statement. These represent only my personal views. I believe them to be sound, and they have not been formed without due consultation with other members of the profession who have considerable mining practices, but since there is room for legitimate differences of opinion, I suggest the propriety of my first point, which is as follows:

There are legitimate grounds for differences of opinion among accountants as to the proper treatment of depletion in the accounts. Any decisions arrived at by a small group of accountants cannot be expected to be binding upon the profession as a whole.

I do not suppose there is much difference of opinion as to the principle of depletion; rather, difficulties arise as to the proper method of its calculation. Though we should first recognize the principle before discussing the practical difficulties involved in giving effect to that principle in accounts, I shall not discuss it beyond these few preliminary comments; rather, I immediately come to my second point, which is as follows:

The amount paid for a mining property (subject to the residual value of the surface lands and improvements) represents, in substance, the cost of all of the ore or mineral-bearing gravel contained in the property. If the amount is determinable or capable of reasonably accurate estimate, that portion of the cost (hereinafter referred to as depletion) which is fairly applicable to the ore or gravel extracted in any accounting period should be charged against the income for that period and either credited to the property account or set up as a reserve for depletion.

DEPLETION SUBJECT TO ESTIMATE

Those who are experienced in mining accounts will recognize the importance of the words, "if the amount is determinable or capable of reasonably accurate estimate." Practically, in the case of metal mines, the ideal state of affairs, where the amount of depletion is determinable or capable of reasonably accurate estimate, seldom exists. The only instance which occurs to me, where there exists a reasonable possibility of measuring with substantial accuracy the amount of exhaustion of underground mineral wealth due to mining operations, is in the case of gold-dredging operations preceded by complete prospecting. I have never seen a case in my own experience where such a possibility existed in the mining of ores.

As an illustration, one of our clients operates a gold mine located in the California Mother Lode. Beside the entrance to the office building is a plate which states, among other things, the date operations commenced and that date is 1850. The mine is, therefore, now in its eighty-eighth year of operation. During that long period, I feel safe in saying that at no time was there more than a year and a half's supply of ore developed to the point where it was capable of even approximate measurement and assay. To have developed further ahead than this would have been most uneconomical, for the ground is of such character that the expense of maintaining the underground workings would have been prohibitive. Consequently,

NOTE.—This paper was presented by Mr. Short to provoke discussion on problems of depletion at the Mountain States Accounting Conference, May 31, 1938, at Salt Lake City, Utah.

after eighty-eight years of operation we do not yet know, even approximately, the amount or value of "all of the ore . . . contained in the property." You may regard this as a somewhat extreme illustration, and perhaps it is as applied to metal mining as a whole. Nevertheless, the basic factors involved in the illustration apply perhaps to a somewhat lesser degree to almost all metal mining. Certainly the illustration, particularly as to the limited amount of ore developed in advance of production, is generally applicable to all California Mother Lode properties.

However, even in those cases where it is possible and economical to develop a mine more fully before production commences, such development seldom, if ever, is so extensive as to establish with even approximate accuracy the entire contents of the mine. Even if it were, it would still seem impossible to calculate depletion, for what is considered ore today may prove to be worthless rock tomorrow, and what is regarded as worthless rock today may prove to be ore tomorrow. No one can possibly foresee the future of metal prices, and it is those metal prices which primarily determine what is ore and what is not ore. However, the question of what is ore is also affected by operating costs and, particularly in these somewhat strenuous times, no one can possibly foresee what future operating costs will be. Possible improvements in metallurgy also have an influence on the question and this also is a matter which cannot possibly be foreseen.

I think I have laid a sufficient groundwork to propose my third point:

Only in very rare instances is the amount of depletion of a mining property in any accounting period determinable or capable of reasonably accurate estimate.

Qualification in Audit Report

It seems to me we are now face to face with our problem. If we admit the principle of depletion and at the same time deny that in most cases it is capable of application, just what is our attitude to be? It is certainly no function of accountancy to reflect in the accounts an amount which is a pure guess and has not even the merit of representing a reasonably accurate estimate. Acting instinctively on this premise, many mining companies have consistently refused to recognize depletion in their accounts at all. It seems to me that in this they are quite within their rights, particularly as the general public may reasonably be assumed to understand that a mine is a wasting asset, even though one may be unable to determine the rate at which it is being exhausted. The directors of a mining company may well be excused for refusing to reflect in the accounts of their company an amount for depletion which must necessarily constitute an untrue statement of a material fact, since it cannot, in most cases, possibly be anything else. In such cases, however, the auditor, while having a sympathetic understanding of the directors' point of view, nevertheless is forced to recognize the principle of depletion, even though the principle is incapable of application. My own view is that this situation calls for a qualification in the auditor's report, but that the qualification should not be so worded as to imply a criticism. Rather, the auditor should make it very clear that the amount of depletion is incapable of measurement.

On the foregoing basis, I propose my fourth point:

If the amount of depletion is undeterminable or incapable of reasonably accurate estimate, there is no requirement that the accounts of a mining company shall reflect any amount for depletion. If no amount of depletion is reflected in the accounts, the auditor in reporting upon them should qualify his opinion by stating that depletion has not been reflected in such accounts. However, the qualification should be so phrased that it does not imply any criticism of the management, and particularly it should be made clear to the reader that the amount of depletion is undeterminable and not even capable of reasonably accurate estimate.

While I personally believe that the accounts of a mining company (except in that small minority of cases where depletion is measurable) are more satisfactory if no attempt is made to reflect depletion, it is, nevertheless, a fact that a substantial number of mining companies do reflect depletion in their accounts. Maurice E. Peloubet made a study which gives us some data on the proportion of companies which recognize depletion in their accounts, and this study formed a part of an article by him which was published in the autumn, 1937, number of the *Harvard Business Review*. He based his study on the annual reports to the Securities and Exchange Commission of forty-one mining companies whose securities were listed on the New York Stock Exchange or the New York Curb Exchange. He found that the reports of thirteen of these companies showed no depletion at all; twenty-four showed depletion on either the basis used for federal income taxes or some other basis; and four gave no indication of the method used for charging depletion. He found further that the thirteen which did not show depletion in their accounts represent a much larger production than that of the remaining companies. He also mentioned the fact that "of the twenty-four companies who show depletion in some form, thirteen make the charge entirely to income, six entirely to surplus, and five divide the charge between income and some surplus account." No doubt the high proportion of companies which made the charge all or partially to surplus arose from the fact that the depletion shown was the amount allowable for federal income-tax purposes, which was based on a written-up March 1, 1913, value.

Explanation in Financial Statements

Regardless of the basis used in computing depletion by these and other companies which recognize depletion in their accounts, it is apparent that, at least in most cases, the amount of depletion reflected must necessarily be some amount other than the true depletion. I do not think we as auditors are greatly concerned with the particular methods used by such companies in computing depletion. We are very much concerned, however, with the fact that the depletion reflected in the accounts by most of these companies must necessarily be an untrue statement of a material fact, unless it is adequately explained so that there may be no misinformation. If, therefore, a mining company chooses to set up in its accounts depletion on any basis which it may consider expedient, I believe that it should explain in a footnote that the true amount of depletion is not capable of determination, or even of reasonably accurate estimate, and that under these circumstances the directors have approved the recognition of depletion in the accounts on the basis actually used, which should of course be described in the footnote. If this is done, there is certainly no misinformation and I believe the auditor may properly give an unqualified opinion as to the accounts. I therefore suggest the applicability of my fifth point:

If the amount of depletion is undeterminable or incapable of reasonably accurate estimate, it is permissible for a mining company, if it so desires, to recognize depletion in its accounts on any basis which it deems expedient, provided, however, that the accounts are so drafted as to make it entirely clear to the reader (a) that the true amount of depletion is undeterminable, and (b) what basis has been used in calculating the amount of depletion actually reflected in the accounts. Under these circumstances, the auditor is not called upon to qualify his opinion as to the accounts.

Treatment in Profit-and-Loss Account

Under the conditions we have dealt with, it is apparent that some mining companies reflect depletion in their accounts (even though the amount shown is generally not the true depletion) while others do not recognize depletion in their accounts at all. Both classes of companies are, in my judgment, acting with equal propriety. Nevertheless, it is important that the reader of the accounts, and particularly of the profit-and-loss account, be not confused more than is necessary under the circumstances. I, therefore, feel that where depletion is reflected in the accounts, it should appear as the last item in the profit-and-loss account, even after the item of federal income taxes. If this is done, the reader should have little difficulty in distinguishing the net profit before depletion, which is the item which will be comparable with the accounts of a mining company which does not recognize depletion. I, therefore, propose my sixth point, which is as follows:

In view of the fact that some companies recognize depletion in their accounts and some companies do not, both acting with equal propriety, it is apparent that comparison of the net profits of the two classes of companies is rendered difficult. To remedy this situation accountants should use their influence with their clients to the end that the charge (if any) against income for depletion should be the last deduction made in the profit-and-loss account for any period.

Policies of New Companies

I have indicated what I believe to be the soundest approach which an auditor can take to the problem of depletion in the accounts of mining companies now in existence. I wonder, however, if we cannot find some better method which can be applied in the case of new mining companies. If we can find such a method, should we not encourage our clients to adopt it?

The method which appeals to me most is based upon the principle upon which most intelligent mining finance is conducted. The intelligent investor in a mine—and I use the term investor advisedly, for if he approaches it from this point of view he merits that description—does not consider that he has made any profit until his capital has been returned. Why not recognize this principle in the accounts of mining companies? In other words, why not encourage our clients to treat all of the profits from operating a mine as a reserve for depletion, until such time as the reserve equals the entire cost of the property. This treatment, of course, would necessitate regarding the first dividends paid to shareholders as a return of capital, and the sum total of these dividends would be reflected in the form of a deduction from capital stock in the balance-sheet. To the best of my knowledge, there is no jurisdiction in which mining is an important industry where the corporation laws affecting mining companies are not such as to permit this treatment. Needless to say, where this method is adopted, the accounts of the company should be so drafted as to reflect clearly the fact that the company's policy is to consider all operating profits as a reduction in the book value of its properties until such time as the properties have been entirely written off, and also to regard all dividends paid as a return of capital until such time as the dividends equal the sum total of the capital paid in. If they are so drafted, it appears to me that the auditor may properly give an unqualified opinion as to the accounts. We cannot, of course, force the adoption of this principle, but we can use such influence as we may have with our clients to encourage its adoption, and I, personally, think we should. I, therefore, propose my seventh point, which is as follows:

Accountants should use such influence as they may have to encourage every new mining company to consider all net profits from the mine as a reserve for depletion until such time as the reserve shall equal the amount of the investment in the property; also to regard all dividends paid as a reduction of capital stock until such time as the capital paid in by the shareholders shall have been returned to them. In cases where this policy is adopted and clearly indicated in the accounts, the auditor may give an unqualified opinion as to such accounts.

Proposed Change in Tax Laws

This desirable treatment would be encouraged if our tax laws recognized the obvious fact, known to all intelligent mining investors, that there can be no "income" from an investment in a mine until the capital has been returned. However, the mining industry would be greatly stimulated by the recognition in our federal and state taxation of this eminently sound principle. You are all aware of the efforts which Canada has made to encourage the growth of its mining industry, because of the new employment and wealth which this industry creates. One of Canada's moves in this direction has been the total exemption of mining companies from income tax for a period of three years following the commencement of production. This exemption in the present act is for a temporary period, but in view of Canada's constructive attitude in such matters, I think it likely that the period will be extended. It might well be that the adoption in our tax laws of the principle that there can be no income from a mining enterprise until the capital has been returned might result in a considerable stimulation of the mining industry in this country. I think we, as accountants, should do what we can to promote methods of taxation which are based upon sound principles of finance, and I therefore propose my eighth point:

It would facilitate the general adoption of the policy outlined in number seven, if changes were made in the federal and state income-tax laws which would result in the recognition, in the case of newly organized mining companies, of the obvious financial fact that there can be no true income from an investment in a mine until such time as the cost or other basis of the mining property has been recovered in the form of operating profits, after which all operating profits constitute income. Such changes would simplify the administration of the tax laws and would stimulate the development of the mining industry with consequent increases in employment and wealth.

The Investor's Interest

I do not think this discussion should close without considering some of the practical aspects of the depletion problem. I say practical, because I do not think that the inclusion or noninclusion or the amount included in the accounts for depletion is of the slightest practical interest or importance to the investors in shares of mining companies. The article by Mr. Peloubet, to which reference has already been made, also includes a detailed study as to the effect, if any, of the inclusion or noninclusion of depletion in the accounts upon the market prices of mining companies' shares. There is no point at this time in reviewing the details of his study, but the conclusion he draws therefrom reads as follows: ". . . it would seem clear, in the absence of any other evidence, that the factors which affect the investor's judgment of a mining security are common both to those companies which show a financial deduction for depletion in their published accounts and to those which do not."

Perhaps I can best illustrate the absurdity, from a practical point of view, of the whole matter by an actual case taken from my own experience. It was just twenty years ago, namely, 1918, that I was responsible for what was, I believe, the first instance in which depletion was reflected in the accounts of a Canadian mining company. At that time I practised in Toronto and was auditing the accounts covering the first year's production of a new gold-mining company, which owned a very encouraging-looking property in northern Ontario. The company had made a very nice profit during its first year, but the president felt that cash should be conserved for development and expansion. He, therefore, felt it undesirable to encourage a demand on the part of shareholders that all, or most, of the profit be paid out in dividends and consulted me on this point. After discussion, we agreed that the best plan was to set up an allowance for depletion, thus reducing the amount of the profits shown as apparently available for dividends. There was, of course, no means of determining the probable life of the property. In fact, at that time, as I remember it, there was only about one year's supply of developed ore. However, we decided to write off the book value of the property in twenty equal instalments and the directors approved this action. My recollection is that the book value of the property was $2,000,000, so that this meant a charge against income of $100,000 a year. As a matter of fact, under today's accepted accounting practices the book value would have been substantially less than $2,000,000, for this amount represented the entire amount of issued capital stock, which had a par value of $1 per share. A considerable block of these shares was donated after issue to a trustee for the benefit of the company and sold to the general public at from 30 to 35¢ a share. While I have not followed the later history of the company closely, I have recently looked up the *Poor's* report on it. It is apparent from this that the practice initiated at that time was continued, for mining properties have now been written down to $1.

Let us now look at the subsequent history of that company. It is today one of the outstanding gold mines of the world. In fact, I know of only one mine which has a larger production. Its shares are currently selling on the Toronto Stock Exchange and the New York Curb Exchange at approximately $50 per share. The dividends which it has paid have been steadily rising, until in the last fiscal year it paid $6 per share. In 1918 it had milled only 14,948 tons of ore, but in the last fiscal year it milled 879,559 tons. The *Poor's* report states that, "while no official information is available, it is estimated that reserves will last for approximately twenty years," and later says, "and mining properties though worth inestimable millions are carried on the books at $1."

Now just what has the depletion charge of $100,000 a year during the last twenty years meant? It is apparent that it meant nothing to any single shareholder of that company. It was an absurdly large amount for the original shareholder who bought his shares at 30¢ and has been wise enough to retain them. It means nothing whatever to the person who recently became a shareholder at a cost of $50 a share. That person must take his depletion in the future and on a basis approximately fifty times the original book value of the mining property.

I believe, therefore, that accountants are warranted in holding the opinion expressed in my ninth point, which is as follows:

> The inclusion or noninclusion of depletion in the accounts of mining companies (or if it be included, the amounts at which it is stated) is not of the slightest practical importance to the investors in the shares of mining companies and the practice followed can have no effect on the market price of the shares. The only point which is of

practical importance is that, if depletion be included in the accounts, it should be so segregated that the shareholder may readily eliminate it in making his calculations.

Value of Engineers' Reports

If we agree on the preceding point, however, namely, that the showing of depletion is of no practical importance, we are faced with the question of what is of practical importance. In my judgment, the answer to this question does not rest primarily with accountants, although we may well lend our influence toward the improvement of the annual reports of mining companies. The annual published reports of the better managed mining companies almost invariably include not merely the financial statements and report of the auditors, but a fairly detailed report by a qualified mining engineer (who may be the consulting engineer or the mine manager). This latter report describes the accomplishments during the year under review and outlook, and should set forth comparative data as to the ore reserves at the beginning and end of the year. It is the combination of the financial statements, the report of the auditors, and the engineer's report which enables the investor to form a reasonably sound judgment, as to the affairs of a mining company. Unfortunately, the shareholders of many mining companies do not receive the engineer's report and hence are left without adequate data upon which to judge the value of their investments. I suggest, therefore, the tenth and final point:

It is of practical importance that shareholders in mining companies should receive in the annual published reports of such companies not merely the financial statements and the auditor's report, but also a reasonably detailed report on the year's operations by a qualified mining engineer which report should, among other things, give adequate comparative data as to the ore reserves at the beginning and the end of the year under review, and such predictions as to future ore which may be developed as the engineer feels that he may properly make. The Securities and Exchange Commission, the stock exchanges, and others interested in the adequate information of holders of mining companies' securities should place greater emphasis upon the necessity of such an engineer's report and should abandon the emphasis which has been made on the reflection of depletion in the financial statements.