

## The best way to value your aggregates operation

If you are in the market to expand your company via an acquisition, you may wonder whether the property advertised in the illustration at left is a good buy. Should you call and inquire? Is the indicated sales price too high? How would you react to this ad?

Perhaps you are a loan officer at a bank and a quarry owner asks for a \$5 million loan based upon the fact that a similarly sized quarry producing 1 million tons sold for \$25 million. Should the loan officer react favorably? After all, the collateral is apparently worth five times the requested amount of the loan?

I assume your reaction to these questions, is "I do not know." Based upon discussions with many owners over the years, my observation is that most owners formulate their opinion regarding fair market value based upon what they hear with respect to the sales price a competitor received. This practice may stem from the use of comps in real estate where it seems to work fairly reliably. However, using comps to estimate the fair market value of a quarry or mine based upon its annual sales volume is not a reliable method, even in those instances where a similar mineral is being mined and sold.

Perhaps you are skeptical. Would you not expect the purchase prices (aka fair market value) of three limestone quarries each producing and selling approximately one million tons of construction aggregates to be similar? The actual results may surprise you. The individual quarry values shown in Figure 1 ranged from a high of \$24.89 per ton sold to a low of \$7.82 per ton sold.

Figure 1: Fair Market Value Comparison of 1 Million Ton Quarries



Just in case you are still skeptical, let's look at the actual results of three quarries producing and selling approximately 600,000 tons annually. As Figure 2 illustrates, the range was from a high of \$20.32 per ton sold to a low of \$13.26 per ton sold. Again, these examples are based upon actual results.

Figure 2: Fair Market Value Comparison of 600,000 Ton Quarries



So, how is the fair market value of a quarry or mine determined? The remainder of this article will provide guidance beginning with the definition of fair market value.

### **What is fair market value?**

Fair market value is defined as “the most probable price that a property (quarry) should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and the price is not affected by undue stimulus.” The last part of the definition states: “The price represents the normal consideration for the property sold, unaffected by special or creative financing or sales concessions granted to anyone associated with the sale.”

### **How is fair market value determined?**

There are three primary methods used to determine a mine’s fair market value. They are the asset-based approach, market-based approach, and the income approach. Each will be briefly described, but, in its mergers and acquisitions practice (M&A), Mid-America typically finds that the fair market value estimate determined by means of the income approach has the best correlation to a quarry’s actual sales price.

*Asset-based approach:* The basis for this methodology is that a business is a bundle of assets. Accordingly, the value of the business is the sum of the current fair market value of the mobile equipment fleet, plant, real estate (typically any owned surface or mineral), stockpiled materials, and goodwill. The structure of the transaction, whether an asset sale or stock transaction, determines how working capital (payables, receivables, cash, etc.) and long-term debt is considered in the calculations. We find that using the asset-based approach to estimate fair market value results in a materially lower value than the other two methods, except in those cases where the quarry is not profitable. For smaller family-owned quarries and mines, it seems this is partly due to the fact that the plant and equipment fleet are relatively old and, therefore, have low fair market values.

*Market-based approach:* This approach is based upon the use of comps to establish fair market value. It is imperative that the selected metric of comparison be appropriate. For example, as illustrated above, using annual sales volume to determine price is not a reliable metric. This is because the use of annual sales volumes does not take into consideration profit margins. Accordingly, a much more reliable metric considers profits such as Earnings Before Interest, Taxes, Depreciation & Amortization (EBITDA).

There are potential inherent problems with the use of this approach. One drawback is that the selected metric is typically applied to historical performance. Obviously, the quarry’s future performance could be similar, better, or worse. Another drawback is the fact that it is based upon the application of multiples derived from other markets which may, or may not be, more dynamic or less competitive. However, we typically find the use of this methodology yields more reliable results than the asset-based approach.

*Income approach:* It has been our experience that the income-based approach yields the most reliable estimate of fair market value. Most of the larger companies rely most heavily on this methodology.

This approach is based upon a multiyear projection of future sales and financial performance. Historical performance forms the basis of the financial model in that historical sales volumes, sales prices, costs, and profits are considered. Factors that are evaluated include the following:

- Sales performance – adjust historical sales volumes and sales prices in light of expected changes in market demand or the competitive environment.
- Reserve characteristics – projected mine life, change in overburden thickness, or rock quality.
- Mine costs – adjust historical mine costs in light of projected changes in labor costs, geologic conditions, or equipment changes.

- Capital requirements – consider replacement of worn equipment or potential increase to annual capacity.

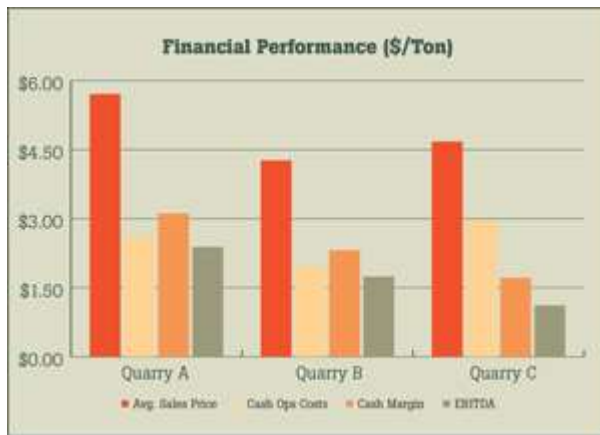
Once the multiyear sales and financial forecast is completed, the resultant cash flow forecast is adjusted by a discount rate. Selection of the appropriate discount rate is a key success factor when employing this approach to valuation.

Perhaps too simplistically, the income approach yields the most reliable fair market value estimate because it is based upon a forecast of future cash flows. Future cash flow is ultimately what a prospective purchaser is buying. You may have heard the saying “cash is king.”

### How can fair market value be so different?

The dissimilarities in fair market values result from material variances in one or more of the factors described previously. First, let’s apply these principles towards reconciling the dissimilarities in fair market values between the three 1millionton quarries. Figure 3 illustrates there is a \$1.40 per ton difference in cash operating margin between the highest valued (Quarry A) and lowest valued quarry (Quarry C). Further inspection indicates that \$1 per ton can be attributed to a higher average sales price. Quarry A’s greater profits account for a little more than 50 percent of the difference in fair market value.

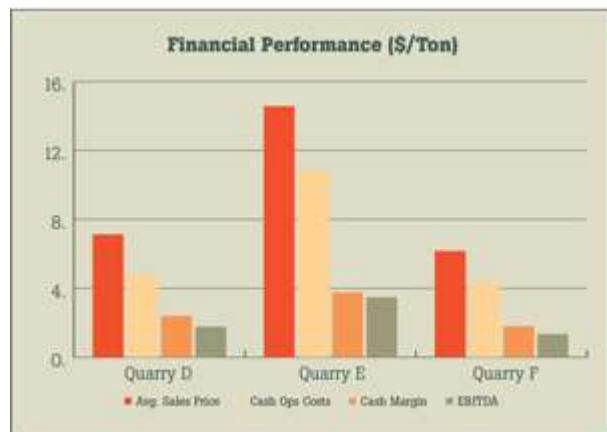
Figure 3: Financial Performance Overview of 1 Million Ton Quarries



The remainder of the difference is attributed to the fact that future annual sales and profits will be significantly higher than historical levels. The quarry had just landed a new likely long term customer who would increase annual sales volumes by nearly 25 percent without an increase in overhead expenses. Also, a three year road project not only was going to increase annual sales volumes, but permit the sale of previously spoiled cap rock. By contrast, the trend of Quarry C’s annual sales volumes was negative. As a matter of fact, they decreased nearly 20 percent over the subsequent two years.

Similarly, analyzing the dissimilarities in fair market values between the three quarries operating at 600,000 annual tons also illustrates the importance of considering nonfinancial factors. Considering only the financial performance of Quarry D versus Quarry E one would expect that Quarry E’s fair market value to be twice that of Quarry D as its profit margin is nearly twice that of the other quarry, \$3.48 per ton versus \$1.78 per ton. Figure 4 also illustrates Quarry E has an average sales price that is twice that of the other two quarries, but much of this advantage is offset due to significantly greater mining costs. Why? Because this quarry produces a highvalue product that is both capital and labor intensive.

Figure 4: Financial Performance Overview of 600,000-Ton Quarries



The reason why Quarry E is not valued at twice that of Quarry D is twofold. Most significantly, Quarry E's reserves will be depleted in approximately 10 years. A second contributing factor is the fact that there is a new competitor capable of producing the high-value product that will negatively impact the ability to maintain current sales volumes and raise sales prices to meet inflation.

### Conclusions

The fair market value of a profitable quarry or mine is determined by future cash flow. To the extent that forecast future cash flow is greater, the quarry's fair market value should be higher. What should be evident is using comps to estimate the fair market value of a quarry or mine based upon their annual sales volume is not a reliable method. Rather, there are numerous factors that need to be considered in developing an estimate of fair market value because value is about the amount of future cash flows. And, always remember, cash is king.

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