

Mineral Leases: Royalty Rates Only Part of the Story

Long-term leases should address the future implications and meet the needs of both parties

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CASE STUDY A

A producer receives an unfavorable court decision and is ordered to pay landowner \$5 million. Unfortunately, this is a true story that occurred very early in my career. Why? Because the lessor had asked to have the lease's existing royalty rate increased from 5¢ per ton to 15¢ per ton. In other words, the lessor asked for the prevailing royalty rate in lieu of the royalty rate they had agreed to 27 years earlier when the lease was executed. This request would have cost an additional \$150,000. The company and its legal advisors did not believe the lessor was entitled to this additional compensation, so their request was denied. As a result, the unhappy landowner hired an attorney to look for loopholes in the mineral lease. A loophole was found and my employer was forced to spend hundreds of thousands of dollars on legal bills and court costs in addition to the referenced \$5 million judgement.

CASE STUDY B

Two landowners have just executed long-term mineral leases containing a royalty rate of 50¢ per ton. Each knows other landowners in the area have gotten approximately the same rate, so both are satisfied with the economic terms of their lease. As each of the mineral deposits contains approximately 5 million tons, both landowners look forward to receiving \$2.5 million in royalties during the life of the lease. Perhaps it would surprise you to learn that one of the landowners negotiated a mineral lease containing far superior economic terms as compared to the other.

These two case studies illustrate a mistake commonly made by both lessors and lessees. The landowner's primary focus is getting the highest possible initial royalty rate. A producer tends to focus primarily on the same issue, minimizing their royalty expense. Other issues just do not seem as important as the royalty income, or expense, that will result from the lease. Failure to focus on more than the royalty rate does create long-term problems. I've seen it over and over again. Case A is an excellent example of what can and does happen.

It's very important to realize that the

TABLE 1. Representative Unit Sales Price (\$/ton)

State	Washington	Tennessee	Illinois	Indiana
Crushed Stone	\$5.20	\$5.44	\$4.71	\$4.27
Crushed Sandstone	\$9.48	\$6.37		
Sand & Gravel	\$4.33	\$4.27	\$4.06	\$3.91
Industrial Sand		\$15.42	\$14.49	
Dimension Stone		\$100.00		\$122.00

Source: USGS Mineral Industry Surveys—all data other than dimension stone prices.

TABLE 2. Royalty at 6 Percent (\$/ton)

State	Washington	Tennessee	Illinois	Indiana
Crushed Stone	\$0.31	\$0.33	\$0.28	\$0.26
Crushed Sandstone	\$0.57	\$0.38		
Sand & Gravel	\$0.26	\$0.26	\$0.24	\$0.23
Industrial Sand		\$0.93	\$0.87	
Dimension Stone		\$6.00		\$7.32

typical mineral lease is a long-term contract lasting for periods of 20, 30 or even 40 years. These contracts establish the long-term obligations and rights of the landowner (lessor) and minerals producer (lessee).

In order for a long-term relationship to work, it must create value for both the lessor and the lessee not only now, but also in the distant future. Furthermore, the lessor must have realistic expectations regarding the benefits as well as any negatives associated with entering into the agreement. Similarly, the lessee should only agree to lease terms that will permit it to realize acceptable profits in the market in which it competes.

The primary economic aspects of a mineral lease are the determination of the royalty rate and the amount of any annual minimum royalty. This article provides guidelines for setting a realistic royalty rate that is as acceptable now as it will be 20 years from now. We'll return to Case Study B at the end of the article to explain why one lessor negotiated a much more favorable deal as compared to the other.

DETERMINING THE ROYALTY RATE

What Is A Fair Earned Royalty Rate?

What is an earned royalty rate, also commonly referred to as the royalty rate? It is

the amount of compensation the landowner (lessor) receives for each ton (or other unit of measure) of mineral that is extracted and sold from the lessor's property.

Determining a fair royalty rate is not merely a matter of gaining some intelligence on what rates others are getting, but rather requires a careful assessment of several factors including the following:

- Commodity sales prices; and
- Quarry operator's (lessee's) anticipated profits.

Commodity Sales Prices. The value of the commodity being extracted and sold from the property is typically the primary factor that determines the amount of earned royalty a lessee is willing to pay. Yet many of the landowners who contact us cannot answer the two following questions:

- What specific product will be produced and sold?
- What is the sales price the producer might expect to receive?

Table 1 illustrates the wide range of sales prices for representative commodities. For example, Table 1 indicates that sales prices associated with dimension stone (typically limestone, dolomite or sandstone) are dramatically higher than either crushed stone or crushed sandstone prices. As a matter of fact, dimension stone prices can exceed \$100 per ton.

Therefore, it's not enough to know the type of mineral—limestone, sandstone, sand and gravel, or some other mineral—it is important to understand its market.

Once the product to be produced and the anticipated sales prices have been determined, it is possible to estimate a reasonable royalty rate. To illustrate, Table 2 indicates the royalty rates that might be associated with Table 1's data assuming royalty rates were equal to 6 percent of sales price.

It also may not be sufficient to know the average statewide sales price for a commodity as prices may vary considerably within the market. For example, recent USGS data for the state of Washington indicates the sales price of sand and gravel within the state varies from \$4.64 per ton in the western part of the state to \$2.81 per ton in the eastern portion. Another example contrasts sales prices in a major metropolitan area versus a rural sparsely populated area. In this instance, the sales price for sand and gravel sold in the Indianapolis metropolitan area was approximately \$5 per ton and \$7 per ton respectively, versus a statewide average of \$3.95.

Quarry Operator's Profits. A secondary factor in determining the earned royalty rate the operator (lessee) is willing to pay the lessor is the forecasted operating profits. Table 3 illustrates what is believed to be a reasonable range of profit margins for crushed stone and sand & gravel operations. In addition to the cash expenses indicated, the operator must earn a return on its capital investment in equipment and development of the quarry or mine. It should be clear that the higher the estimated profit margin, the higher the royalty rate the operator (lessee) may be willing to pay.

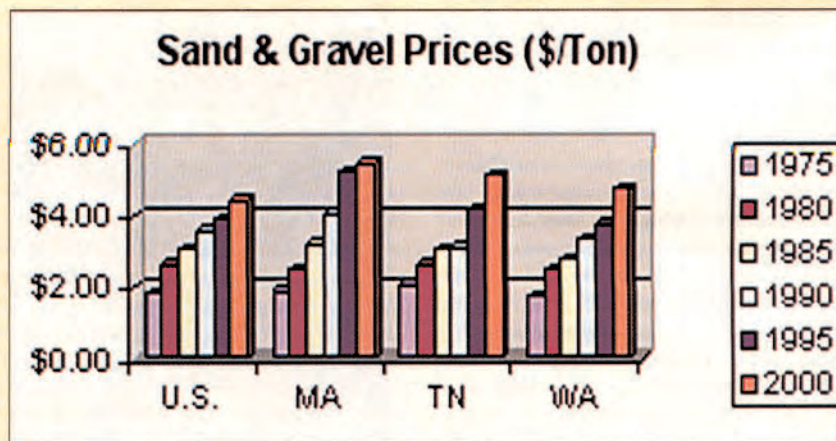
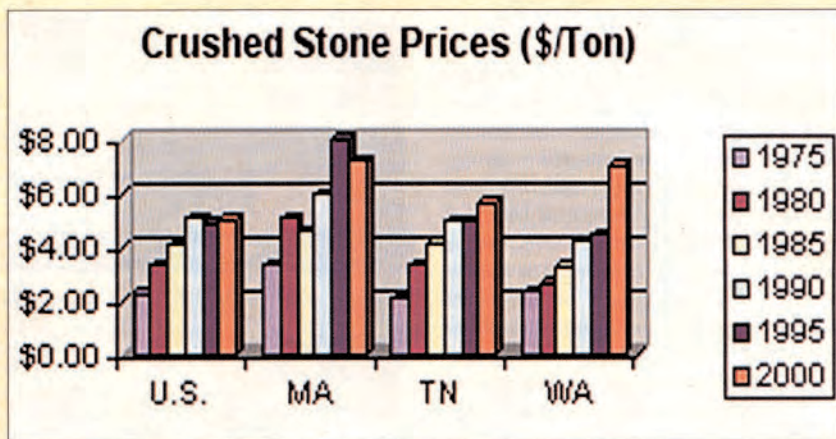
Is a Fixed Royalty Rate or Percentage Royalty Better? In almost all cases, I suggest avoiding fixed royalty rates for long-term leases. My experience is that this is the single largest issue that creates problems between the lessee and lessor over the long term. The \$5 million judgement (Case A) is an excellent example of the problems that can and do result when the royalty does not keep up with long-term trend of increasing sales prices. In that case, not only did the sales price increase by 200 percent, but the prevailing royalty rate on newer leases had increased to the requested 15¢ per ton rate. If space permitted, I could give numerous other examples.

The primary reason for using a royalty rate based on a percentage of sales prices—in lieu of a fixed royalty rate—is the long-term trend of ever increasing

TABLE 3. Illustrative Cash Profits

Product	Crushed Stone	Crushed Stone	Sand and Gravel	Sand and Gravel
Sales Price	\$6.00	\$4.50	\$5.50	\$4.00
Cash Cost	\$3.00	\$3.50	\$2.50	\$3.00
Cash Margin	\$3.00	\$1.00	\$3.00	\$1.00

CHART 1. Long-Term Price Trends



Source: USGS Mineral Industry Surveys—all data other than dimension stone prices.

sales volume and prices. Chart 1 illustrates the sales price increases during the past 25 years. For example, the average price of crushed stone in the state of Washington increased from \$2.33/ton to \$6.99/ton during this 30-year period, a price increase of 200 percent. Similarly, the average price of sand and gravel in the state of Tennessee increased 150 percent.

Eventually, lessors realize there has been a significant increase in commodity prices without any corresponding increase in royalty rate. Furthermore, they have seen inflation reduce the purchasing power of the royalty they do receive. To illustrate

this important point, let's assume that a landowner signed a long-term lease in the state of Washington for crushed stone during 1975. With sales prices of approximately \$2.50 per ton, perhaps a royalty of 20¢ per ton (8 percent of sales price) would have seemed fair. However, today that same 20¢ royalty rate represents less than 3 percent of the average sales price. An equivalent royalty—8 percent of sales price—would require a royalty rate of 56¢ per ton.

To further illustrate the lessor's perspective regarding fixed royalty rates, two hypothetical leases are presented in Table 4. Table 4 illustrates the steadily

TABLE 4. Lessor's Perspective of Fixed Royalty Rates¹

Year	Prices	LEASE A		LEASE B	
		Effective Fixed Royalty	Rate	Effective Fixed Royalty	Rate
1975	\$2.07	\$0.15	7.3%	n/a	n/a
1980	\$3.30	\$0.15	4.5%	n/a	n/a
1985	\$4.11	\$0.15	3.6%	\$0.25	6.0%
1990	\$4.93	\$0.15	3.0%	\$0.25	5.1%
1995	\$4.94	\$0.15	3.0%	\$0.25	5.1%
2000	\$5.64	\$0.15	2.7%	\$0.25	4.4%

¹ USGS Industry Survey Data for crushed stone sold in the state of Tennessee.
Effective Royalty Rate (%) = Royalty Rate/Sales Price

TABLE 5. Lessor's View of Percentage Royalty Rates

Year	Prices	LEASE A		LEASE B	
		Percentage Rate	Dollar Rate	Percentage Rate	Dollar Rate
1975	\$2.07	5.0%	\$0.10	n/a	n/a
1980	\$3.30	5.0%	\$0.16	n/a	n/a
1985	\$4.11	5.0%	\$0.21	5.0%	\$0.21
1990	\$4.93	5.0%	\$0.25	5.0%	\$0.25
1995	\$4.94	5.0%	\$0.25	5.0%	\$0.25
2000	\$5.64	5.0%	\$0.28	5.0%	\$0.28

declining effective royalty rate (defined as the percent of sales price) that would have resulted from long-term leases executed in the state of Tennessee for the removal and sale of crushed stone. The 15¢ per ton fixed rate contained in the 1975 lease initially represented 7.3 percent of the sales price. Currently, the rate is equivalent to only 2.7 percent of the sales price. The 1985 lease's effective rate declined by more than 25 percent.

Arguably using a percentage royalty in lieu of a fixed rate offers potential benefits for operators. Not only can it help preserve a good long-term relationship, but it may also permit you to negotiate a lower initial royalty rate. For example, Table 5 suggests the lessor of the 1975 lease (Lease A, above) may have been better off with a lower initial

royalty rate (5.0 percent versus 7.3 percent) as long as the royalty rate was based on a percentage of sales prices rather than a fixed rate. Arguably, the lessor of the 1985 lease (Lease B) would be indifferent to a lease containing an initial royalty rate that was 1 percent lower.

The potential for a lower initial royalty rate would seem to be especially attractive to the operator of a newly developed facility facing capital investments and low initial revenue due to lower sales volumes. Therefore, it seems both parties stand to gain from negotiating a fair royalty that considers commodity prices, profits and the ability to track future price performance. So why not avoid problems?

THE REST OF THE ECONOMIC STORY

There are two other important factors

A percentage royalty can not only preserve a good long-term relationship, it may also enable you to negotiate a lower initial royalty rate.

that should be considered: annual minimum royalties and the definition of sales price.

What Is A Minimum Annual Royalty? As the term implies, the minimum annual royalty is a guarantee that the lessor will receive some level of royalty income each year. In this way it could be thought of as a rent. In the event the amount of earned royalties was less than this amount, the lessee would be obligated to make up the shortfall. For example, the parties may agree that the lessor should receive a minimum royalty of \$25,000 per year.

In negotiating the size of the minimum annual royalty, it is important that the lessor have realistic expectations. This includes realistic assumptions regarding sales volumes, sales prices and associated royalties.

Why Is It Important to Define Sales Price? When negotiating leases containing royalty rates calculated as a percentage of the sales price, it is very important to properly define the sales price. For example, the negotiated sales price definition may or may not allow the lessee to subtract such things as sales taxes, use tax or transportation costs. Problems typically result when such issues receive inadequate focus during negotiations.

WHO GOT THE BETTER DEAL?

Many of you may have guessed that Case B was hypothetical, although it is loosely based on several leases that I am familiar with. For purposes of this discussion, let's assume that Lessor 1 negotiated a fixed earned royalty rate on the basis of market intelligence regarding a fixed royalty rate that was negotiated 15 years ago. However, as his property is underlain by industrial sand that sells for \$14 per ton, the effective royalty rate is only 3.6 percent of sales price. By contrast, Lessor 2 negotiated a percentage royalty rate equal to 8 percent of sales prices. Furthermore, Lessor 1 will see the effective rate (royalty as percent of sales price) decline over time.

The second article in this series will address the non-economic aspects associated with mineral leases including factors that led to the \$5 million lawsuit. ▲

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